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ABSTRACT

As an alternative for or adjunct to paper-and-pencil tests for predicting personnel performance, the United States Air Force studied the use of peer ratings as an evaluative tool. Purpose of this study was to evaluate the psychometric characteristics of peer ratings among Air Force basic trainees. Peer ratings were obtained from more than 27,000 basic trainees. An effective method was developed for scoring them by algebraically summing the positive and negative ratings. A modification of the Spearman-Brown prophecy formula was used to determine interrater reliability coefficients which were adjusted to the mean number of trainees in the flights. The peer ratings yielded uniformly high interrater reliability coefficients which indicated substantial agreement among raters. It was concluded that the method developed for norming peer ratings from different size groups was valuable and could be applied to standardize future peer ratings. Peer ratings thus show promise for performance appraisal when normed using this method. References and extensive norm tables for personnel characteristics such as effort, cooperation, people orientation, emotional stability, intelligence, calmness, physical strength and energy, and likelihood of success are included. (Author/KC)

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AIR FORCE HUMAN RESOURCES LABORATORY

PEER RATINGS: SCORING STRATEGY DEVELOPMENT AND RELIABILITY DEMONSTRATION ON AIR FORCE BASIC TRAINEES

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September 1980

Final Report

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Peer ratings were obtained from over 27,000 Basic Trainees. An effective method was developed for scoring them by algebraically summing the positive and negative ratings. A modification of the Spearman-Brown prophecy formula was used to determine interrater reliability coefficients which were adjusted to the mean number of trainees in the flights. The peer ratings yielded uniformly high interrater reliability coefficients which indicated substantial agreement among raters. It was concluded that the method developed for norming peer ratings from different size groups was valuable and could be applied to standardize future peer ratings. Peer ratings thus show promise for performance appraisal when normed using this method.

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PEER RATINGS: SCORING STRATEGY DEVELOPMENT AND RELIABILITY DEMONSTRATION ON AIR FORCE BASIC TRAINEES

I. INTRODUCTION

Personnel selection research in the U.S. military has typically employed paper-and-pencil tests of various types to predict performance in training and on the job. However, another strategy for predicting training and job performance in the military has been to gather peer ratings of potential for effectiveness. Peer ratings have enjoyed considerable success in predicting a variety of effectiveness criteria in the military. Within the Air Force, peer ratings have correlated successfully with pilot training success (Flyer & Bigbee, 1955), instructor pilot job performance (Swanson & Johnson, 1975), Officer Training School graduate performance (Tupes, 1957), and performance as cadets, officer candidates, and officers (Tupes & Kaplan, 1961). Annotations of these studies and the considerable peer rating research conducted in the Army, Navy, and Marine Corps can be found in Lammlein and Borman (1979).

The objective of the present study was to evaluate the psychometric characteristics of peer ratings among Air Force basic trainees. If the psychometric properties of these peer ratings are satisfactory, then future research should access the utility of peer evaluations, by themselves and in combination with test scores, for predicting success in advanced training and subsequent job performance.

Special Problems in Scoring Nominations

Raters in the present study were asked to identify the five best or most effective trainees in their flight (Ns = 29-58) on each of several categories (e.g., Try Hard, Cooperative). They were also asked to identify the five worst or least effective trainees in their flight on each of these categories. The main problem this kind of data presents is how to score nominations when different groups contain different numbers of persons and scores must be compared across groups. Kane and Lawler (1978) and Willingham (1959a) present detailed descriptions of this problem.

Briefly the difficulties stem primarily from two sources. The most obvious problem is that members of large groups have a greater potential of receiving many nominations (negative or positive) than do members of smaller groups. This creates larger variances in raw scores for larger groups and results in non-comparable nomination raw scores across different-sized groups. The difficulty has typically been addressed by dividing the sum of the nominations for each group member by the total number of nominators in the group; however, Willingham (1959a) argued that this correction does not in itself equate scores across groups. As evidence, Willingham demonstrated that the adjusted scores correlate highly (and negatively with the

size of the groups, and therefore this adjustment provides an over-correction, (i.e., corrected scores in larger groups now tend to have smaller variances). Willingham offered another correction formula that successfully equates the variances of adjusted scores for different-sized groups, and thus aids in creating comparable scores across groups.

Willingham's formula does not address the problem of differing kurtosis (peakedness of the distribution) for different-sized groups. Larger groups tend to have more peaked distributions than do smaller groups because a large proportion of the members of large groups typically receive zero or a small number of nominations. This too creates inequities in scoring nominations for groups of different sizes, and Willingham (1959a) suggested that similar distributions across groups could be obtained by asking group members to provide different numbers of nominations according to their own group's size. He presented a formula to compute the number of nominations required for differing group sizes.

For purposes of the present project, it was not feasible to employ these suggestions directly. First, Willingham's correction formula assumes that persons can nominate themselves, while the instructions in this peer nomination administration asked that persons not nominate themselves. Also, his formula requires that each group member nominated provides nominations, and this requirement was not met in the present study.[1] Willingham's suggestion for handling differing levels of kurtosis could not be employed, either, because data had already been collected on a form requiring five positive and five negative nominations for all groups. Accordingly, for the present study a norming strategy was devised in which flights with similar numbers of nominees were pooled together, and then standardized nomination scores were developed for each grouping. These procedures are discussed in the Method section.

II. METHOD

Subjects

Subjects in the present research were more than 24,000 students assigned to Air Force Basic Training at Lackland AFB, Texas. The mean age of the trainee sample was 20.29, with a standard deviation of 2.17.

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[1]Typically, flights (student groups) contained more nominees than nominators because trainees were instructed to nominate anyone in their flight, including those who for various reasons were absent from the rating schedule.

Data Collection

The peer nominations were gathered by staff members of the basic training course. In general, data collection was accomplished for each flight separately. Student raters were given a roster of their flight members and, as mentioned, were instructed to nominate the five best and five worst trainees on each of eight rating dimensions. They were told not to nominate themselves.

Method for Scoring the Nominations

A special norming strategy was developed for adjusting raw nomination scores so that they would be comparable across the different flights. Specifically, the strategy combined empirical norming and a procedure to equate the expected variances of adjusted scores for different flights. Flights with approximately equal numbers of nominees were grouped together (the number of nominators varied to a degree across these groups[2]), and this brought together flights with very similar levels of kurtosis, because the expected kurtosis varies according to number of nominees. Unfortunately, the expected variances of the distributions of these different groups were highly dependent on the number of nominators in the groups and, therefore, an adjustment in peer nomination scores was required to equate the expected variances.

To deal with the problem, a formula was developed to adjust nomination scores, resulting in the expected variances being equated for flights with differing numbers of nominators. Then, these adjusted nomination scores (for each grouping of flights separately) were aggregated in a single frequency distribution, and a percentile score was assigned to each score. Finally, standard scores were developed for each adjusted nomination score based on the corresponding percentile of a normal distribution.

In general, these adjustments in raw scores allowed statistically justified comparisons to be made of peer nomination scores from different flights. Importantly, the distributions of adjusted scores for individual flights eliminated characteristics of the raw score distributions known to be artifacts of the peer nomination measurement process. On the other hand, these "new" distributions did retain the characteristics that reflect valid variations across the different groups of nominees. For example, with this scoring system if one flight had two or three trainees consistently nominated positively on a rating category, and a second flight in the same grouping had positive nominations on this category spread more evenly across flight

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[2]Many flights contained more nominees than nominators. However, for some flights there were many more nominees than nominators and in other flights almost every nominee served as a nominator. Thus, when flights were grouped according to number of nominees, the number of nominators varied, considerably in some cases.

members, then those two or three in the first flight would tend to receive higher standard scores than the top two or three in the second flight. In sum, the scoring procedures outlined above appeared to meet the critical requirement of allowing justified comparisons between trainees across flights, and therefore standardized scores were computed for each trainee on each rating category and these scores were used in correlational analyses.

Method for Evaluating the Interrater Reliability of the Nominations

The approach to obtaining interrater reliabilities involved computing special intraclass correlation coefficients for each rating category within flights and then examining the distributions of those reliabilities for each category. Derivation of a more general formulation for the intraclass correlation was required because no existing formula was appropriate for this data set. In particular, the data suffered from the "diagonal problem," i.e., trainees in the sample were instructed not to nominate themselves, and this created undefined observations in an otherwise completely crossed experimental design. Gordon (1969) and Willingham (1959b) have provided methods for estimating reliabilities under these conditions but, unfortunately, neither was totally appropriate for this data set because some nominees did not serve as nominators, as has been previously mentioned.

Accordingly, a more general intraclass correlation was developed to meet the requirements of this data set. It is of the general type presented in Hoyt (1941).

$$r_{kk} = \frac{MS_B - MS_E}{MS_B}$$

where:

r_{kk} = the intraclass correlation corresponding to k raters
MS_B = the mean square between nominees' uncorrelated mean scores[3]
MS_E = the mean square error

The formula derived was then used within each flight to compute the interrater reliability for each of the eight rating categories. The resulting reliability estimators, r_{kk} values, were not directly comparable across flights with differing numbers of nominators because

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[3]Uncorrected scores could be used at this point because all analyses were carried out within flight, thereby avoiding the problem of non-equivalent scores across flights.

the reliabilility to be accepted increases with the number of nominators (i.e., flights with 50 nominators would be expected to provide more reliable ratings than flights with 25 nominators, just as a test of 50 items is expected to be more reliable than one with 25 items). Thus, to provide estimators which could be considered comparable, the Spearman-Brown prophecy formula was applied to adjust each estimator to a common number of nominators as follows:

$$r_{37,\,37} = \frac{\frac{37}{k}\, r_{kk}}{1 + \left(\frac{37}{k} - 1\right) r_{kk}}$$

where:

k = harmonic mean of the number of nominators nominating each nominee in the flight

This coefficient reflects the level of interrater reliability adjusted to 37 nominators which is approximately the mean number of nominators per flight. This adjustment permits fair comparisons of reliabilities across flights, and the distributions of these interrater agreement indices were examined for each rating category separately.

In order to describe the norming and standardizing of nomination scores and the derivation of a general interrater reliability formula used in the research, first configuration of data and some terms must be defined.

Description of Data

Consider Figure 1, the layout of data for one of eight dimensions in any one of the 596 flights of trainees. Recall that nominators attending a rating session were allowed to nominate anyone in their flight (except for themselves), including those not present at the session. Therefore, rating data from each flight involved M nominators and N nominees, where $N \geq M$.

Again referring to Figure 1, for each of the NM combinations of nominators and nominees, a value, v_{ij}. ($i = 1, 2, \ldots N$; $j = 1, 2, \ldots M$), was assigned, except where the nominee and nominator coincided--this case is undefinable since nominators were instructed not to nominate themselves. Thus, there were M(N-1) values assigned according to one of three scoring rules:

1. Positive nominations only:

   v_{ij} = 1 if the i^{th} nominee was one of the five positive nominations made by the j^{th} nominator;

   v_{ii} = undefinable;

   v_{ij} = 0 if the i^{th} nominee was not one of the five positive nominations made by the j^{th} nominator.

2. Negative nominations only:

   v_{ij} = -1 if the i^{th} nominee was one of the five negative nominations for the j^{th} nominator;

   v_{ii} = undefinable;

   v_{ij} = 0 if the i^{th} nominee was not one of the five negative nominations for the j^{th} nominator.

3. Positive plus negative (algebraic sum) nominations:

   v_{ij} = 1 if positively nominated;

   v_{ij} = -1 if negatively nominated;

   v_{ii} = undefinable;

   v_{ij} = 0 if not nominated.

Initially, the nominations were scored all three ways for examination of reliability.

Raw scores, X_i, were then computed as the arithmetic mean of available scores, V_{ij}, for the i^{th} nominee, i.e.,

$$X_i = \sum_{\substack{j=1 \\ (i \neq j)}}^{M} V_{ij} \; Z \qquad (1)$$

where:

$Z = M-i$ for all $i \leq M$ and

$Z = M$ for all $M < i \leq N$.

	Nominators 1	2	. . .	M	Raw Scores
1	*	V_{12}	. . .	V_{1M}	X_1
2	V_{21}	*		V_{2M}	X_2
.	.	.		.	.
.	.	.		.	.
.	.	.		.	.
M	V_{M1}	V_{M2}	. . .	*	X_M
M+1	$V_{M+1,1}$	$V_{M+1,2}$	. . .	$V_{M+1,M}$	X_{M+1}
M+2	$V_{M+2,1}$	$V_{M+2,2}$	. . .	$V_{M+2,M}$	X_{M+2}
.	. .	.		.	.
.	. .	.		.	.
.	. .	.		.	.
N	V_{N1}	V_{N2}	. . .	V_{NM}	X_N
	M_1	M_2		M_M	$\overline{X}.$

v_{ij} is the value assigned to the i^{th} nominee by the j^{th} nominator (according to one of three sets of scoring rules).

* indicates that values on the diagonal are undefinable because nominators could not nominate themselves.

Figure 1. Layout of peer nomination data for one flight of trainees on one of eight dimensions.

X_i is the raw score (mean) for the ith nominee:

$$X_i = \sum_{\substack{j=1 \\ (i \neq j)}}^{M} V_{ij} \Big/ Z$$

where

$Z = M-1$ if $i \leq M$, and

$Z = M$ if $M < i \leq N$.

M_j is the mean of nominations for the j^{th} nominator (ordinarily a constant if data are complete):

$$M_j = \sum_{\substack{j=1 \\ (i \neq j)}}^{N} V_{ij} \Big/ N-1$$

$\overline{X}$ is the grand mean of scores:

$$\overline{X} = \sum_{j=1}^{N} X_i \Big/ N$$

Figure 1 (continued). Layout of peer nomination data for one flight of trainees on one of eight dimensions.

For the case in which positive nominations only are scored, the range of X_j is therefore 0 to 1; for negative nominations only, the range is -1 to 0; and for the algebraic sum nomination scoring, the range is -1 to 1. Reliability of these nomination scores for each of the three scoring rules was computed within flights. The algebraic sum scores proved to be most reliable and all subsequent adjusting of scores was accomplished for these scores only (see Table 1).

Table 1. Interrater Reliabilities of Positive, Negative, and Algebraic Sum Nominations[a]

	Scoring Methods		
	Positive	Negative	Algebraic Sum
1. Try Hard	87[b]	93	93
2. Cooperative	83	90	93
3. People Oriented	84	87	89
4. Calm/Emotionally Stable	80	88	88
5. Bright/Intelligent	87	91	93
6. Not Excitable	79	92	91
7. Physical Strength/Energy	92	90	92
8. Likely to Succeed in Air Force	90	93	94

[a]Mean reliabilities were computed separately for the male (N = 432) and female (N = 164) flights, and these means were very similar. Therefore, ony the reliabilities of the combined groups are presented here.

[b]Decimals have been omitted.

Developing Standard Scores for Nominees

The strategy for creating nominee scores that may be legitimately compared across flights included an empirical norming step along with the equating of expected variances for different flights. Accordingly, groupings of flights were formed with approximately the same number of nominees in each flight. Within each of these groupings, then, the level of kurtosis of the distributions of raw nomination scores is very similar, and this helps to create comparable raw scores across flights within these groupings. However, because the number of nominators for flights within each of the groupings varied somewhat more than the number of nominees, and differential numbers of nominators also affect the comparability of scores across flights, these scores were adjusted to equate the expected variances in nomination scores for the different flights (again within grouping), which in turn aids in creating scores that are comparable across the flights.

At this point, the adjusted nomination scores for each grouping were pooled forming a single frequency distribution, and percentile scores were assigned. Finally, standard scores were assigned to each percentile score based on the corresponding percentiles of a normal distribution. Details of these procedures follow.

Two assumptions were required to proceed with the adjustment of nomination scores: (a) the underlying distribution of "true" nomination scores in large groupings of trainees is normal, and deviations from normality are artifacts of measurement; and (b) the reliability of nominations from any one nominator selected at random is the same as the reliability of any other nominator. The first assumption is necessary to justify forcing a normal distribution of scores for each grouping of trainees (with similar numbers of nominees) during the final step of the empirical norming process. The second asumption is required to make reasonable the adjustments of nomination scores using a formula that equates expected variances in the distributions of those scores across flights.

Thus, flights of trainees were aggregrated into 10 groupings, with each grouping having a range of three or fewer nominees across the flights (e.g., 30-33 nominees). Then, for any one of the rating categories, the following summary statistics of the raw scores x were computed;

M_x = mean of all raw scores on a given rating category within a grouping of flights

σ^2_x = variance of raw scores

$\bar{k}$ = mean of the averages (harmonic means) of nominators for all all of the flights within the grouping.

Using these statistics, the variance of the "typical" nominator's scores could be approximated by employing a formula given by Gulliksen (1951, pp. 73):

$$\sigma^2_{(11)} = \sigma^2_{\bar{k}} \left[\frac{1}{\bar{k}} + \frac{1}{\bar{k}} \left(\frac{1}{\bar{k}} - 1 \right) r_{\bar{k}\bar{k}} \right] \qquad (2)$$

where the reliability value, $r_{\bar{k}\bar{k}}$ is the reliability of the raw nomination scores of the "typical flight" within the grouping, i.e.,

$$r_{\bar{k}\bar{k}} = \frac{\frac{\bar{k}}{37} r_{37,\,37}}{1 - \left(\frac{\bar{k}}{37} - 1 \right) r_{37,\,37}} \qquad (3)$$

This is the level of reliability adjusted to the average number of nominators in the flights within the grouping. The variance of a "typical" nominator's scores, $\sigma^2_{(11)}$ given in equation (2) above, is important for adjusting nomination raw scores.

Now, again within each grouping of flights, adjusted raw scores, x', were computed so as to have a mean of zero and an expected variance of approximately $(25)^2$ as follows:

$$x' = g(x - \bar{x}.) \tag{4}$$

where $x.$ = mean nomination within flight (see Figure 1) and

$$g = \frac{25}{\sigma'_x}$$

σ'_x is in turn the theoretical standard deviation of the nomination scores for flights within the same number of nominators, k, within the grouping of flights, i.e.,

$$\sigma'^2_x = \sigma^2_{(11)} \left[k + k\,(k - 1)\, r_{11}\right] \tag{5}$$

Equation (5) also comes from Gulliksen (1950). The result of this particular adjustment to each raw score in a grouping of flights is a distribution of adjusted raw scores, x', with a range of -100 to +100 and a standard deviation of 25. The adjusted scores were rounded to the nearest integer and percentile scores obtained for the frequency distribution of these rounded scores. Then, finally, standard scores were assigned to each percentile score based on the percentile equivalents of a normal distribution. For example, a T-score of 60 would be assigned to the 84th percentile, where the 84th percentile is one standard deviation above the mean in a normal distribution.

In this manner, nomination standard scores were developed which are comparable across flights. This comparability rendered possible correlational analyses with the nominations, incorporating data from trainees in all flights.

Reliability Estimation of Individual Flights

Computation of interrater reliability for peer nominations poses special difficulties because of the "diagonal problem"--i.e., nominators cannot nominate themselves. This creates an undefined observation in the otherwise completely crossed design.

Two authors have previously offered formulas for computing reliability estimates under these conditions (Gordon, 1969; Willingham, 1959b). However, neither of these formulas was suitable for the data collected in this study because neither was readily adaptable to the case where some nominees did not serve as nominators.

Thus, it was necessary to develop an appropriate index of interrater reliability for the purposes of this study as follows:

$$r_{kk} = \frac{MS_B - MS_E}{MS_B} \tag{1}$$

which is the Hoyt (1941) Reliability formula for k number of nominators given the following definitions (see Figure 1):

$$MS_B = \frac{k \sum_{i=1}^{N} (x_i - x.)^2}{N - 1} \tag{2}$$

and

$$MS_E = \frac{\sum_{i=1}^{N} \sum_{j=1 (i \neq j)}^{M} \left(V_{ij} - M_i - X_i + \bar{x}.\right)^2}{(N-1)(M-1) - M} \tag{3}$$

and k is the harmonic mean of the numbers of observations used in computations of the X_i:

$$k = \left(\sum_{i=1}^{M} \frac{1}{M-1} + \sum_{i=M+1}^{N} \frac{1}{M} \right)^{-1} N \tag{4}$$

$$= \frac{N}{\frac{M}{M-1} + \frac{N-M}{M}}$$

The rationale for the estimator, r_{kk}, follows from conventional reliability theory. The parameter of estimations is:

$$\rho_{kk} = \frac{k\sigma^2}{k\sigma^2 + \sigma_e^2} \tag{5}$$

where σ^2 is the variance of "true" scores, k is the theoretical number of nominators used to obtain the vector of observed scores, and σ_e^2 is the variance of errors.

First, MS_E is defined in Equation (3) to be an estimator of σ_e^2, i.e.,

$$\text{est}(\sigma_e^2) = MS_E \tag{6}$$

which loses M degrees of freedom because of the undefined values, v_{ij}. Under the usual assumption that there is no statistical interaction of nominators with nominees, in an analysis of variance sense, the estimator, MS_E, may be shown to be unbiased. Failure of this assumption to be realized would lead to an overestimate of σ_e^2 and, consequently, an underestimate of ρ_{kk}.

The estimate of observed variance in scores, MS_B, may be shown to consist of two parametric components

$$E(MS_B) = \sigma_e^2 + k\sigma^2 \tag{7}$$

If the asumption of independence of errors is made. Specifically, it is assumed that

$$X_i = T_i + \bar{e}_i \tag{8}$$

where X_i is an observed score for nominee i and T_i is the "true" score value for this nominee while $\bar{e}_i$ is the independently distributed error component. This means that X_i is independently distributed with an expected value of T_i and variance of

$$\sigma_{\bar{e}_i}^2 = \sigma_e^2 / Z \tag{9}$$

where $Z = M-T$ if $i \leq M$ and $Z = M$ if $i > M$. The reader may recognize Equation (9) as the variance of the mean error across the nominators for the i^{th} nominee by the central limit theorem.

Finally, it can be seen that the numerator of Equation (1) has an expectation equal to the numerator of Equation (5) and, also, the denominator of Equation (1) has an expectation which is equal to the denominator of equation (5), i.e.,

$$E(MS_B - MS_e) = k\sigma^2 \tag{10}$$

and

$$E(MS_B) = k\sigma^2 + \sigma_e^2 \tag{11}$$

which are the conventional conditions of reliability estimation.

Thus, Equation (1), with its elements defined in Equations (2) and (3), provided the general intraclass estimator for assessing the reliability of nominations in individual flights. Next, reliability information was summarized to depict the stability of the nominations across the many flights.

Reliability Estimation for All Flights

Reliabilities were computed within each flight and for each rating category using Equation (1). Then, each of these reliabilities was adjusted to provide estimates that (a) yield fair comparisons of the degree of reliability for different sized flights, and (b) give a realistic picture of the reliability levels to be expected in future peer evaluation research with Air Force basic trainees.

The rationale for the adjustments is that the magnitude of reliability depends partially on the number of nominators providing ratings. The larger the number of nominators, the greater the expected level of interrater reliability, just as the longer form of a test typically provides higher reliabilities than a shorter form. Importantly, increments in reliability in both of these cases can be closely estimated by the Spearman-Brown formula, and we used this principle to "correct" reliabilities (up or down) to the 37 nominator level using the formula:

$$r_{37,\,37} = \frac{\frac{37}{k}\, r_{kk}}{1 + \left(\frac{37}{k} - 1\right) r_{kk}} \qquad (12)$$

where k = number of nominators in the flight

r_{kk} = reliability of the nominations in this flight

$r_{37,\,37}$ = the reliability adjusted to the 37-nominator level.

The 37-nominator level was used because it is approximately the mean number of nominators in the 596 flights studied, and it is assumed that future peer evaluation research with basic trainees will involve groups of approximately the same size. Therefore, these 37-nominator reliabilities should provide good estimates of the level of reliability that mght be expected in future research.

III. RESULTS

Interrater Reliability

Reliabilities for the positive, negative, and algebraic sum[4] of the positive and negative nominations were computed for each flight separately. To aid in selecting a scoring paradigm for the nominations, the means of these reliabilities were then compared. Rationale for using mean reliabilities was as follows: First, the use of means was motivated by the practical need to characterize the reliabilities with single summary indices. And second, it was anticipated that differences between this kind of estimate of "average reliability" and other estimates that might be developed would be very slight because of the "tight" distributions experienced (see Table 2 for a depiction of these distributions).

Though it may be possible to develop a single estimator within an analysis of variance framework, it was considered impractical because of the unnecessarily complex statistical development which would be required to weight appropriately the variance components of the individual flights containing differing numbers of nominators. Moreover, the computer programming for such an estimation process would have been considerable. Accordingly, the mean of the intraclass estimators for a given dimension (which adjusted using the Spearmen-Brown prophecy formula to a common frame of reference--37 nominators) was accepted as a reasonable estimate of the reliability of a randomly selected flight with 37 nominators.

Table 1 clearly shows that the algebraic sum scores are most reliable, although differences between these reliabilities and those of the negative nomination scores are small. This slight superiority in the stability of the algebraic sum scores suggests an advantage of using these scores in subsequent research. In addition, the summed scores contain more information than either the positive or negative scores alone, and this feature of the summed scores also argues for their use in future research.

Table 2 provides a more complete picture of the reliability results for the summed scores. It showed that reliabilities within flights are uniformly high, and therefore, that very stable peer nomination data can be expected for flights of this size (i.e., Ns ≈ 37).

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[4]Raw Scores for the algebraic sum scoring procedure were computed by simply adding together all positive nominations and subtracting the sum of the negative nominations.

Development of Norm Tables for Scoring Nominations

Norm tables were developed to score these nominations or nominations gathered in future peer evaluation research. The tables permit the researcher to compute a standard score for any raw nomination score. The tables have been prepared for many different sized flights, and they are presented in Appendixes A to H.

IV. SUMMARY AND CONCLUSIONS

The Air Force gathered peer nominations on over 27,000 basic trainees. Interrater reliabilities of the positive, negative, and algebraic sum nominations were computed within flight, and the distributions of these reliabilities were examined. Reliability of the algebraic sum nominations proved to be highest; means of the intraclass correlations used to index reliability ranged from .88 to .94 for the eight rating categories, indicating good stability for the summed nominations.

A special scoring strategy for the summed nominations was then developed to render comparable raw nomination scores across the different flights. The standardized nomination scores on each of the eight rating categories were subsequently correlated with test scores available for many of the trainees. The patterns of these correlations provided some evidence of convergent and discriminant validity for the nominations.

Conclusions based on this research are:

1. In future peer evaluation studies, the Air Force should continue to gather both positive and negative nominations. The algebraic sum of these nominations appears to offer the most reliable measure of the rating categories.

2. The strategy developed for standardized scoring of nominations should be used in future peer evaluation research. The norm table developed in this research will greatly facilitate the adjusting of raw nomination scores. The capability of correcting nomination scores to achieve comparability in such scores across flights, along with the high reliabilities of these nominations, further substantiates the utility of collecting peer ratings.

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APPENDIX A. NORM TABLES FOR DERIVING STANDARDIZED PEER NOMINATION SCORES AND NORM TABLES FOR DIMENSION A - TRY HARD

These appendices A to H provide instructions and tables for scoring peer nominations on each of the eight rating categories used in this research. The scoring procedures for the first category, Try Hard, are described in Appendix A; the same procedures can then be used to score nominations on the other rating categories.

First, the rating instructions require trainees in each flight to identify the five best or most effective trainees in their flight on each rating category. They are also instructed to identify the five worst or least effective trainees in their flight on each of these categories. Now, a given trainee's raw score (X) for a category is computed using the formula:

$$X = \frac{\text{Number of positive nominations} - \text{Number of negative nominations}}{\text{Number of nominations possible}}$$

Because trainees are prohibited from nominating themselves, the number of nominations possible is one less than the total number of nominators in the flight, unless the trainee whose nominations are being scored does not serve as a nominator (e.g., he/she is absent from the rating session). In that case, the number of nominations possible is equal to the number of nominators in the flight.

After the raw score for a nominee has been computed for the rating category, an adjustment must be made in this score to corrrect for the effects on the raw scores of differing numbers of nominators and nominees. This can be accomplished by entering Table A-1 with the number of nominators and nominees in the trainees' flight and then employing the obtained value (Q) in the equation

$$Y = Q \quad X$$

where Y is the transformed raw score*

*In General, these scores will range from -100 to +100. It is mathematically possible for them to take on values greater than +100 or less than -100 but this should occur infrequently. Also, we should mention that the transformation indices in Tables A-1, B-1, etc., are in the main based on large norming groups and therefore are probably stable estimates that would be confirmed in future peer rating research with these rating categories and the same kind of basic trainee sample. However, as the Ns in these tables indicate, the values for the smallest group sizes (e.g., N = 29) and the values for the largest group sizes (e.g., N = 58) are based on smaller samples, and therefore, the adjustments to raw scores made for these groups should be performed with caution.

The standardized score for the trainees on this rating category can now be obtained by entering Table A-2 with the transformed raw score and the number of nominees in the trainee's flight. An example is now provided to show the scoring procedure:

Number of nominators = 37 (the trainee did provide nominations)
Number of nominees = 40
Number of positive nominations for the trainee on Category A = 14

$$X = \frac{14 - 4}{36}$$

$X = + .278$
The Q value from Table A-1 is 92.534
Thus, $Y = +.278\ (92.534)$
$Y = +25.72$ or $+26$
and the standardized score (from Table A-2) = 62

The same procedures should be followed in scoring nominations on other rating categories. The requisite tables are included in Appendixes B to H.

As mentioned in the text of the report, this standardizing process yields scores that are comparable across flights with differing numbers of nominators and nominees. Accordingly, the standardized scores permit analyses of data from multiple flights, a critical requirement for conducting further research that focuses on correlations between peer nominations and criterion variables.

TABLE A-1. TABLE OF INITIAL, RAW-SCORE TRANSFORMATION COEFFICIENTS FOR DIMENSION A - TRY HARD.

NO. OF NOMINATORS	29-29	31-33	34-36	N-U-M-B-E-R 37-39	O-F 40-42	N-O-M-I-N-E-E-S 43-45	46-48	49-51	52-54	58-58
21	71.860	76.945	85.982	85.508	90.039	94.505	98.189	100.942	104.443	119.957
22	72.064	77.162	86.224	85.749	90.292	94.771	98.464	101.224	104.735	120.292
23	72.251	77.362	86.448	85.970	90.524	95.015	98.717	101.484	105.004	120.600
24	72.425	77.547	86.654	86.175	90.739	95.240	98.951	101.724	105.252	120.884
25	72.585	77.719	86.845	86.364	90.938	95.449	99.167	101.946	105.481	121.148
26	72.734	77.878	87.022	86.540	91.123	95.643	99.369	102.153	105.695	121.393
27	72.873	78.026	87.187	86.704	91.296	95.823	99.556	102.345	105.894	121.620
28	73.003	78.164	87.341	86.857	91.457	95.992	99.731	102.525	106.079	121.833
29	73.124	78.294	87.486	87.000	91.607	96.149	99.894	102.693	106.253	122.032
30	---	78.415	87.621	87.135	91.748	96.297	100.048	102.850	106.416	122.219
31	---	78.529	87.748	87.261	91.881	96.436	100.192	102.998	106.569	122.395
32	---	78.637	87.868	87.380	92.006	96.567	100.328	103.138	106.713	122.560
33	---	78.738	87.981	87.492	92.123	96.690	100.456	103.269	106.848	122.715
34	---	---	88.087	87.597	92.234	96.807	100.577	103.393	106.977	122.863
35	---	---	88.188	87.697	92.340	96.917	100.691	103.511	107.098	123.002
36	---	---	88.284	87.792	92.439	97.022	100.799	103.622	107.213	123.134
37	---	---	---	87.882	92.534	97.121	100.902	103.728	107.322	123.259
38	---	---	---	87.968	92.624	97.215	101.000	103.828	107.426	123.378
39	---	---	---	88.049	92.709	97.305	101.093	103.923	107.525	123.491
40	---	---	---	---	92.791	97.390	101.181	104.014	107.619	123.599
41	---	---	---	---	92.869	97.471	101.266	104.101	107.708	123.701
42	---	---	---	---	92.943	97.549	101.346	104.184	107.794	123.799
43	---	---	---	---	---	97.623	101.424	104.263	107.876	123.893
44	---	---	---	---	---	97.694	101.497	104.339	107.954	123.983
45	---	---	---	---	---	97.762	101.568	104.411	108.029	124.069
46	---	---	---	---	---	---	101.636	104.481	108.100	124.151
47	---	---	---	---	---	---	101.700	104.547	108.169	124.230
48	---	---	---	---	---	---	101.763	104.611	108.235	124.306
49	---	---	---	---	---	---	---	104.673	108.299	124.379
50	---	---	---	---	---	---	---	104.732	108.360	124.449
51	---	---	---	---	---	---	---	104.789	108.419	124.516
52	---	---	---	---	---	---	---	---	108.476	124.581
53	---	---	---	---	---	---	---	---	108.530	124.644
54	---	---	---	---	---	---	---	---	108.583	124.704
55	---	---	---	---	---	---	---	---	---	124.762
56	---	---	---	---	---	---	---	---	---	124.819
57	---	---	---	---	---	---	---	---	---	124.873
58	---	---	---	---	---	---	---	---	---	124.926
NORMATIVE SAMPLE N=	29	129	390	1107	2924	6807	8968	5525	1216	58

TABLE A-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION A - TRY HARD.

TRANSFORMED RAW-SCORE	29-29	31-33	N-U-M-B-E-R 34-36	37-39	O-F 40-42	N-U-M-I-N-E-E-S 43-45	45-48	49-51	52-54	58-58
-100	--	--	--	--	--	--	11	16	19	--
-99	--	--	--	--	--	--	12	18	20	--
-98	--	--	--	--	--	--	13	19	20	--
-97	--	--	--	--	--	14	13	19	21	--
-96	--	--	--	--	--	15	14	20	21	--
-95	--	--	--	--	--	16	15	20	22	--
-94	--	--	--	--	--	18	15	20	22	--
-93	--	--	--	--	--	18	16	20	22	--
-92	--	--	--	--	--	18	16	21	22	--
-91	--	--	--	--	--	19	18	21	22	--
-90	--	--	--	--	--	19	19	21	23	--
-89	--	--	--	--	--	20	20	22	23	--
-88	--	--	--	--	14	20	21	22	23	--
-87	--	--	--	17	18	21	21	22	23	--
-86	--	--	--	18	19	21	22	23	24	--
-85	--	--	--	18	20	22	22	23	24	--
-84	--	--	--	19	21	23	23	23	24	--
-83	--	--	--	19	22	23	23	24	24	--
-82	--	--	--	20	22	23	24	25	24	--
-81	--	--	--	20	23	24	24	26	25	--
-80	--	--	--	22	23	24	25	26	26	--
-79	--	--	20	22	24	24	25	27	26	--
-78	--	--	21	23	24	25	25	27	26	--
-77	--	--	21	23	25	25	26	27	26	--
-76	--	--	22	24	25	25	26	27	27	--
-75	--	--	22	25	25	26	26	27	27	--
-74	--	--	23	25	26	26	27	28	27	--
-73	--	--	23	25	26	26	27	28	28	--
-72	--	--	23	25	27	27	28	28	28	--
-71	--	--	24	26	27	27	28	28	28	--
-70	--	--	24	26	28	27	28	29	28	--
-69	29	--	25	27	28	28	29	29	29	--
-68	29	--	25	27	28	28	29	29	29	--
-67	29	--	26	27	28	29	29	29	29	--
-66	30	--	27	27	29	29	29	30	30	--
-65	30	--	27	27	29	29	30	30	30	--
-64	30	--	28	28	29	29	30	30	30	--
-63	30	--	28	28	29	30	30	30	31	26
-62	30	26	29	28	29	30	30	30	31	28
-61	30	26	30	28	30	30	30	30	31	29

TABLE A-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION A - TRY HARD.

TRANSFORMED RAW-SCORE	29-29	31-33	N-U-M-B-E-R 34-36	37-39	O-F 40-42	N-O-M-I-N-E-E-S 43-45	46-48	49-51	52-54	58-59
-60	31	27	30	28	30	30	31	31	31	31
-59	31	27	31	29	30	31	31	31	31	33
-58	31	27	31	30	31	31	31	31	32	33
-57	31	28	32	30	31	31	32	31	32	33
-56	31	28	32	30	31	32	32	32	32	34
-55	32	28	33	30	31	32	32	32	32	34
-54	32	29	33	31	32	32	32	32	33	34
-53	32	29	34	31	32	33	33	32	33	34
-52	32	30	34	31	32	33	33	33	33	34
-51	32	31	34	32	33	33	33	33	33	34
-50	32	32	34	32	33	33	33	33	33	35
-49	33	32	34	32	33	34	33	33	34	35
-48	33	33	35	32	34	34	34	33	34	35
-47	33	34	35	33	34	34	34	34	34	35
-46	33	34	35	33	34	34	34	34	34	35
-45	33	34	35	33	34	34	34	34	34	35
-44	34	35	36	34	35	35	34	34	34	36
-43	34	36	36	34	35	35	35	35	35	36
-42	34	36	36	35	35	35	35	35	35	36
-41	34	36	37	35	36	35	35	35	35	36
-40	34	36	37	35	36	35	35	35	35	37
-39	34	36	37	35	36	36	36	35	35	37
-38	35	37	37	35	36	36	36	36	36	37
-37	35	37	37	36	36	36	36	36	36	37
-36	35	37	37	36	37	36	36	36	36	39
-35	36	37	37	37	37	36	37	37	36	38
-34	37	37	37	37	37	37	37	37	36	38
-33	38	38	38	37	37	37	37	37	37	38
-32	38	38	38	37	38	37	37	37	37	39
-31	39	38	38	38	38	37	37	37	37	39
-30	39	38	38	38	38	38	38	37	37	39
-29	39	38	38	38	38	38	38	38	37	39
-28	39	39	39	39	38	38	38	38	38	39
-27	40	39	39	39	39	38	38	38	38	39
-26	40	39	39	39	39	39	39	38	38	39
-25	40	40	40	39	39	39	39	39	39	39
-24	40	40	40	40	40	39	39	39	39	40
-23	40	41	40	40	40	39	39	39	39	40
-22	40	41	40	41	40	40	40	39	39	40
-21	41	41	40	41	40	40	40	40	40	40

TABLE A-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION A - TRY HARD.

TRANSFORMED RAW-SCORE	29-29	31-33	N-U-M-B-E-R 34-36	37-39	O-F 40-42	N-O-M-I-N-E-E-S 43-45	46-48	49-51	52-54	58-58
-20	41	42	40	41	41	40	40	40	40	40
-19	41	42	41	42	41	41	40	40	40	40
-18	41	42	41	42	41	41	41	40	40	41
-17	41	42	41	42	41	41	41	41	40	41
-16	41	42	42	42	42	41	41	41	41	41
-15	42	42	42	43	42	42	42	41	41	41
-14	42	43	42	43	42	42	42	42	41	41
-13	43	43	43	43	43	42	42	42	41	42
-12	44	43	43	44	43	43	43	42	42	42
-11	44	44	44	44	43	43	43	43	42	42
-10	45	45	44	44	44	43	43	43	42	43
-9	45	45	44	44	44	44	43	43	43	43
-8	46	46	45	45	44	44	44	44	43	43
-7	46	46	45	45	45	45	44	44	44	44
-6	46	47	45	46	45	45	45	44	44	44
-5	47	47	46	46	46	45	45	45	45	44
-4	47	47	46	46	46	46	46	46	46	45
-3	48	47	47	47	47	46	46	46	46	45
-2	49	48	47	48	47	47	47	47	47	48
-1	49	49	48	49	48	48	48	48	48	47
0	50	50	48	49	49	49	49	49	49	48
1	51	51	49	50	50	50	50	50	50	49
2	51	51	49	50	50	50	50	51	51	50
3	52	52	50	51	51	51	51	52	52	51
4	53	53	51	52	51	52	52	52	53	52
5	53	53	51	52	52	52	52	53	53	52
6	54	53	52	53	53	53	53	53	54	53
7	54	54	53	54	53	54	54	54	54	53
8	54	54	53	54	54	54	54	55	55	54
9	55	54	54	55	55	55	55	55	56	54
10	55	54	54	55	55	55	55	56	56	55
11	55	55	55	56	56	55	56	56	57	55
12	56	56	55	56	56	56	56	57	57	55
13	56	56	56	57	57	57	57	57	58	57
14	56	57	55	57	57	57	57	58	58	57
15	57	57	57	58	58	58	58	58	58	58
16	57	57	57	58	58	58	58	59	59	58
17	57	57	57	58	58	59	59	59	59	59
18	58	58	58	59	59	59	59	60	60	59
19	58	58	58	59	59	59	60	60	60	59
20	58	58	59	59	60	60	60	60	60	60

TABLE A-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION A - TRY HARD.

TRANSFORMED RAW-SCORE	29-29	31-33	34-36	37-39	40-42	43-45	46-48	49-51	52-54	58-59
			N-U-M-B-E-R		O-F	N-O-M-I-N-E-E-S				
21	58	59	59	60	60	60	60	61	61	60
22	58	59	60	60	61	61	61	61	61	60
23	59	60	60	60	61	61	61	61	61	61
24	59	60	61	61	61	61	62	62	62	61
25	59	60	61	61	62	62	62	62	62	61
26	59	60	62	61	62	62	62	63	62	62
27	60	61	62	62	62	63	63	63	63	62
28	60	61	63	62	63	63	63	63	63	62
29	61	61	64	62	63	63	63	64	63	63
30	61	61	64	62	63	63	64	64	64	63
31	63	61	64	63	64	64	64	64	64	63
32	64	62	65	63	64	64	64	64	64	64
33	64	62	63	64	64	64	65	65	65	64
34	64	62	65	64	65	65	65	65	65	65
35	65	63	66	64	65	65	65	65	65	65
36	65	63	65	64	65	65	65	66	65	66
37	65	64	66	65	66	66	66	66	66	66
38	65	65	67	65	66	66	66	66	66	67
39	65	66	67	65	66	65	66	66	67	67
40	65	66	67	66	66	67	67	67	67	67
41	66	66	68	66	67	67	67	67	67	68
42	66	67	69	67	67	67	67	67	67	68
43	66	67	69	67	67	67	67	67	68	68
44	67	68	69	67	68	68	68	68	68	69
45	69	68	69	68	68	68	68	68	68	69
46	70	69	70	68	68	68	68	68	69	69
47	71	70	70	68	69	69	68	69	69	70
48	--	71	71	68	69	69	69	69	69	70
49	--	71	71	69	70	69	69	69	69	70
50	--	72	71	69	70	70	69	69	69	71
51	--	72	72	70	70	70	70	70	69	71
52	--	72	72	70	71	70	70	70	70	71
53	--	72	72	71	71	71	70	70	70	72
54	--	73	74	71	71	71	71	71	70	72
55	--	73	75	71	71	71	71	71	70	72
56	--	73	75	72	72	71	71	71	70	73
57	--	73	76	72	72	72	71	71	70	73
58	--	74	75	72	73	72	72	72	71	73
59	--	74	75	72	73	73	72	72	71	74
60	--	--	77	72	74	73	72	72	71	74

TABLE A-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION A - TRY HARD.

TRANSFORMED RAW-SCORE	29-29	31-33	N-U-M-B-E-R 34-36	37-39	O-F 40-42	N-O-M-I-N-E-E-S 43-45	46-48	49-51	52-54	58-58
61	--	--	77	73	74	73	73	72	71	--
62	--	--	77	73	74	73	73	72	71	--
63	--	--	78	73	75	74	73	73	71	--
64	--	--	78	74	75	74	74	73	72	--
65	--	--	78	74	76	75	74	73	72	--
66	--	--	78	75	76	75	75	73	72	--
67	--	--	79	75	77	76	75	73	73	--
68	--	--	79	75	77	76	76	73	74	--
69	--	--	73	76	78	76	76	74	74	--
70	--	--	80	76	78	77	76	74	75	--
71	--	--	80	77	78	77	77	74	76	--
72	--	--	--	77	79	78	77	74	76	--
73	--	--	--	77	79	78	78	75	76	--
74	--	--	--	78	79	78	78	75	78	--
75	--	--	--	78	79	79	78	76	78	--
76	--	--	--	80	81	79	79	76	78	--
77	--	--	--	83	81	79	79	76	79	--
78	--	--	--	--	82	79	79	77	79	--
79	--	--	--	--	82	80	80	77	79	--
80	--	--	--	--	82	81	80	78	79	--
81	--	--	--	--	83	81	81	79	79	--
82	--	--	--	--	83	82	81	80	79	--
83	--	--	--	--	84	82	82	80	80	--
84	--	--	--	--	84	82	84	81	80	--
85	--	--	--	--	84	84	89	82	80	--
86	--	--	--	--	85	85	--	83	80	--
87	--	--	--	--	85	85	--	83	80	--
88	--	--	--	--	85	88	--	84	81	--
89	--	--	--	--	86	--	--	85	81	--
90	--	--	--	--	86	--	--	86	81	--
91	--	--	--	--	--	--	--	--	81	--
92	--	--	--	--	--	--	--	--	82	--
93	--	--	--	--	--	--	--	--	82	--
94	--	--	--	--	--	--	--	--	82	--
95	--	--	--	--	--	--	--	--	82	--
96	--	--	--	--	--	--	--	--	83	--
97	--	--	--	--	--	--	--	--	83	--
98	--	--	--	--	--	--	--	--	83	--
99	--	--	--	--	--	--	--	--	--	--
100	--	--	--	--	--	--	--	--	--	--

TABLE B-1. TABLE OF INITIAL, RAW-SCORE TRANSFORMATION COEFFICIENTS FOR DIMENSION B - COOPERATIVE.

NO. OF NOMINATORS	29-29	31-33	34-36	NUMBER OF 37-39	40-42	43-45	46-48	49-51	52-54	58-58
21	85.009	87.655	95.367	92.595	100.213	105.232	109.101	114.650	120.784	116.496
22	85.340	87.996	95.737	92.953	100.600	105.638	109.521	115.091	121.249	116.943
23	85.646	88.310	96.078	93.284	100.958	106.012	109.909	115.498	121.677	117.355
24	85.929	88.601	96.394	93.590	101.289	106.359	110.268	115.875	122.074	117.737
25	86.192	88.872	96.688	93.875	101.596	106.681	110.602	116.225	122.442	118.092
26	86.437	89.124	96.961	94.140	101.882	106.981	110.912	116.551	122.785	118.422
27	86.666	89.359	97.216	94.387	102.149	107.261	111.202	116.856	123.105	118.731
28	86.880	89.579	97.455	94.618	102.399	107.523	111.473	117.140	123.405	119.019
29	87.080	89.785	97.678	94.835	102.633	107.769	111.728	117.407	123.686	119.290
30	---	89.978	97.889	95.038	102.853	107.999	111.966	117.658	123.950	119.544
31	---	90.161	98.087	95.230	103.060	108.217	112.191	117.894	124.198	119.783
32	---	90.333	98.273	95.411	103.256	108.421	112.403	118.116	124.432	120.009
33	---	90.495	98.449	95.582	103.440	108.615	112.604	118.327	124.654	120.222
34	---	---	98.616	95.743	103.615	108.798	112.793	118.526	124.863	120.423
35	---	---	98.774	95.896	103.780	108.971	112.973	118.714	125.061	120.614
36	---	---	98.924	96.042	103.937	109.136	113.143	118.893	125.249	120.795
37	---	---	---	96.180	104.086	109.292	113.305	119.062	125.428	120.967
38	---	---	---	96.311	104.228	109.441	113.459	119.224	125.598	121.131
39	---	---	---	96.436	104.363	109.582	113.605	119.378	125.760	121.287
40	---	---	---	---	104.492	109.717	113.745	119.525	125.914	121.436
41	---	---	---	---	104.615	109.846	113.879	119.665	126.062	121.578
42	---	---	---	---	104.732	109.969	114.006	119.799	126.203	121.713
43	---	---	---	---	---	110.087	114.128	119.927	126.337	121.843
44	---	---	---	---	---	110.200	114.245	120.049	126.466	121.967
45	---	---	---	---	---	110.308	114.357	120.167	126.590	122.086
46	---	---	---	---	---	---	114.464	120.280	126.709	122.201
47	---	---	---	---	---	---	114.567	120.388	126.823	122.310
48	---	---	---	---	---	---	114.666	120.492	126.932	122.416
49	---	---	---	---	---	---	---	120.592	127.037	122.517
50	---	---	---	---	---	---	---	120.688	127.138	122.614
51	---	---	---	---	---	---	---	120.781	127.236	122.708
52	---	---	---	---	---	---	---	---	127.330	122.799
53	---	---	---	---	---	---	---	---	127.421	122.886
54	---	---	---	---	---	---	---	---	127.508	122.970
55	---	---	---	---	---	---	---	---	---	123.052
56	---	---	---	---	---	---	---	---	---	123.130
57	---	---	---	---	---	---	---	---	---	123.206
58	---	---	---	---	---	---	---	---	---	123.280
NORMATIVE SAMPLE N=	29	129	390	1107	2924	6887	8968	5525	1216	58

TABLE B-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION B - COOPERATIVE.

TRANSFORMED RAW-SCORE	29-29	31-33	N-U-M-B-E-R 34-36	37-39	O-F 40-42	N-O-M-I-N-E-E-S 43-45	46-48	49-51	52-54	58-33
-100	--	--	--	--	--	14	11	13	17	--
-99	--	--	--	--	14	14	12	14	17	--
-98	--	--	--	--	15	15	13	14	18	--
-97	--	--	--	--	16	15	14	15	18	--
-96	--	--	--	--	16	16	15	17	19	--
-95	--	--	--	17	17	16	16	18	19	--
-94	--	--	--	18	19	17	17	19	20	--
-93	--	--	--	18	19	18	18	20	20	--
-92	--	--	--	19	20	18	19	21	20	--
-91	--	--	--	19	20	18	20	21	21	--
-90	--	--	--	20	20	19	20	22	21	--
-89	--	--	--	21	20	19	20	22	21	--
-88	--	--	--	21	21	19	21	22	22	--
-87	--	--	--	22	22	20	21	23	23	--
-86	--	--	--	22	23	21	22	23	23	--
-85	--	--	--	22	24	21	22	23	24	--
-84	--	--	--	22	24	21	23	24	24	--
-83	--	--	--	23	24	22	23	24	24	--
-82	29	--	22	23	25	22	24	24	24	--
-81	29	--	23	23	25	22	24	25	24	--
-80	29	--	23	23	25	23	25	25	25	--
-79	29	--	24	24	25	24	25	26	25	--
-78	30	--	24	24	25	24	26	26	25	--
-77	30	--	25	24	26	24	26	27	25	25
-76	30	--	25	24	26	24	26	27	25	27
-75	30	23	25	25	26	25	26	27	26	27
-74	30	24	25	25	26	25	26	27	26	28
-73	30	25	26	25	27	26	27	28	26	29
-72	30	25	27	25	27	26	27	28	26	30
-71	30	26	27	25	27	26	27	28	27	30
-70	31	27	27	25	27	27	27	28	28	31
-69	31	27	27	26	27	27	28	28	28	31
-68	31	27	28	26	28	28	28	28	28	31
-67	31	27	28	27	28	28	28	29	28	31
-66	31	28	29	28	28	28	29	29	28	32
-65	31	28	29	28	29	29	29	29	29	32
-64	31	28	29	29	29	29	29	29	29	32
-63	31	28	30	29	29	29	30	30	30	32
-62	32	28	30	29	29	30	30	30	30	32
-61	32	28	30	30	30	30	30	30	30	32

TABLE B-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION B - COOPERATIVE.

TRANSFORMED RAW-SCORE	29-29	31-33	N-U-M-B-E-R 34-36	37-39	O-F 40-42	N-O-M-I-N-E-E-S 43-45	46-48	49-51	52-54	58-58
-60	32	28	31	30	30	30	31	30	30	33
-59	32	29	31	30	30	30	31	31	30	33
-58	32	29	32	30	31	31	31	31	31	33
-57	32	29	32	31	31	31	31	31	31	33
-56	32	29	32	31	31	31	32	32	31	33
-55	32	31	32	31	31	31	32	32	32	33
-54	33	31	32	32	32	32	32	32	32	34
-53	33	31	32	32	32	32	32	32	32	34
-52	33	31	33	32	32	32	33	32	32	34
-51	33	32	33	32	33	33	33	33	33	34
-50	33	32	33	32	33	33	33	33	33	34
-49	33	32	33	32	33	33	33	33	33	34
-48	33	32	33	33	33	34	33	33	33	34
-47	33	32	33	33	33	34	34	34	34	35
-46	34	33	34	33	34	34	34	34	34	35
-45	34	33	34	33	34	34	34	34	34	35
-44	34	33	34	34	34	35	34	34	34	35
-43	34	34	34	34	34	35	35	35	34	35
-42	34	34	34	34	35	35	35	35	35	35
-41	34	34	35	35	35	35	35	35	35	35
-40	34	34	35	35	35	36	35	36	35	35
-39	35	34	35	35	35	36	36	36	35	36
-38	35	35	35	36	36	35	36	36	36	36
-37	35	35	35	36	36	36	36	36	36	35
-36	35	36	36	36	37	37	36	36	36	36
-35	35	37	36	36	37	37	37	37	37	36
-34	35	37	36	37	37	37	37	37	37	37
-33	35	37	37	37	37	37	37	37	37	37
-32	35	37	37	37	38	37	37	37	38	37
-31	36	38	37	38	38	38	38	37	38	37
-30	36	38	38	38	38	38	38	38	38	37
-29	36	39	38	38	38	38	38	38	38	38
-28	36	39	38	38	38	38	38	38	38	38
-27	36	39	39	39	39	39	39	38	39	38
-26	37	40	39	39	39	39	39	39	39	38
-25	37	40	39	39	40	39	39	39	39	38
-24	38	40	39	40	40	40	39	39	39	38
-23	38	40	40	40	40	40	40	39	40	38
-22	39	40	40	40	40	40	40	40	40	39
-21	40	41	41	40	40	40	40	40	40	39

TABLE B-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION B - COOPERATIVE.

TRANSFORMED RAW-SCORE	29-29	31-33	N-U-M-B-E-R 34-36	37-39	O-F 40-42	N-O-M-I-N-E-E-S 43-45	46-48	49-51	52-54	58-58
-20	40	42	41	41	41	41	40	40	40	39
-19	41	42	41	41	41	41	41	41	41	39
-18	42	42	42	41	41	41	41	41	41	39
-17	42	43	42	42	42	41	41	41	41	40
-16	43	43	42	42	42	42	42	41	41	40
-15	44	43	43	42	42	42	42	42	42	41
-14	44	44	43	43	42	42	42	42	42	41
-13	45	44	43	43	43	43	43	42	42	41
-12	45	44	44	43	43	43	43	43	43	42
-11	45	45	44	44	44	43	43	43	43	42
-10	46	45	44	44	44	44	44	43	43	42
-9	46	45	45	44	44	44	44	44	43	42
-8	46	45	45	45	45	44	44	44	44	42
-7	46	45	45	45	45	45	45	44	44	43
-6	47	46	46	46	45	45	45	45	45	43
-5	47	47	47	46	46	46	46	45	45	44
-4	48	47	47	46	46	46	46	46	45	44
-3	48	48	48	47	47	47	47	46	46	45
-2	48	48	48	48	48	48	48	47	47	45
-1	49	49	49	48	48	48	48	48	48	47
0	49	49	49	49	49	49	49	49	49	48
1	49	49	50	50	50	50	50	50	50	49
2	50	50	50	50	50	50	50	50	51	50
3	50	50	51	51	51	51	51	51	52	51
4	50	51	52	52	52	52	52	52	53	52
5	51	52	52	53	52	52	52	52	53	53
6	51	53	52	53	52	53	53	53	53	54
7	52	53	53	54	53	53	53	53	54	55
8	52	54	53	54	53	54	54	54	55	55
9	53	55	53	55	54	54	54	54	55	55
10	53	56	54	55	54	55	55	55	55	57
11	54	56	54	56	55	55	55	55	56	57
12	54	57	55	56	55	56	56	56	56	58
13	54	57	55	56	56	56	56	56	57	58
14	54	58	56	57	56	57	57	57	57	59
15	54	58	56	57	57	57	57	57	58	59
16	55	58	57	58	57	58	58	58	58	60
17	55	58	57	58	58	58	58	58	59	60
18	56	59	58	58	58	59	59	59	59	61
19	56	59	58	59	59	59	59	59	59	62
20	57	60	59	59	59	59	60	60	60	62

TABLE B-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION B - COOPERATIVE.

TRANSFORMED RAW-SCORE	29-29	31-33	N-U-M-B-E-R 34-36	37-39	O-F 40-42	N-O-M-I-N-E-E-S 43-45	45-48	49-51	52-54	58-59
21	57	60	59	60	59	60	60	60	60	63
22	58	60	60	60	60	60	60	61	60	63
23	60	60	61	61	60	61	61	61	61	63
24	61	61	61	61	61	61	61	62	61	63
25	61	61	62	61	61	62	62	62	61	63
26	62	61	62	62	62	62	62	62	62	63
27	62	61	62	62	62	62	62	63	62	64
28	63	61	63	63	63	63	63	63	63	64
29	63	62	63	63	63	63	63	63	63	64
30	64	63	64	63	64	63	64	64	63	64
31	66	63	64	64	64	64	64	64	63	64
32	67	63	65	64	65	64	64	64	64	64
33	67	63	65	64	65	64	65	65	64	64
34	68	64	65	64	65	65	65	65	64	65
35	69	64	65	65	66	65	65	65	65	65
36	69	64	66	65	66	66	66	66	65	66
37	70	64	66	65	67	66	66	66	66	66
38	70	65	66	65	67	67	66	67	66	66
39	71	65	67	66	68	67	67	67	67	66
40	--	66	67	66	68	67	67	67	67	67
41	--	66	68	66	68	67	67	67	67	67
42	--	66	69	66	68	68	67	68	68	67
43	--	67	69	67	69	68	68	68	68	67
44	--	67	69	67	69	69	68	68	68	67
45	--	67	69	67	69	69	69	69	69	67
46	--	68	69	67	70	69	69	69	69	68
47	--	68	70	68	70	69	69	69	69	68
48	--	68	70	68	70	70	70	70	69	68
49	--	69	70	69	71	70	70	70	69	69
50	--	69	70	69	71	70	70	70	70	69
51	--	70	71	69	71	71	70	71	70	69
52	--	70	71	70	71	71	71	71	70	69
53	--	71	72	70	72	71	71	71	71	70
54	--	71	72	70	72	71	71	71	71	70
55	--	71	72	71	72	72	72	71	71	70
56	--	72	72	71	72	72	72	72	72	70
57	--	72	73	72	73	72	72	72	72	70
58	--	72	73	72	73	72	73	72	72	70
59	--	72	73	72	73	73	73	72	73	71
60	--	72	73	73	73	73	73	73	73	71

TABLE B-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION B - COOPERATIVE.

TRANSFORMED RAW-SCORE	29-29	31-33	N-U-M-B-E-R 34-36	37-39	O-F 40-42	N-O-M-I-N-E-E-S 43-45	46-48	49-51	52-54	58-58
61	--	72	74	73	74	74	74	73	74	71
62	--	73	75	73	74	74	74	74	74	71
63	--	73	75	73	74	74	74	74	75	71
64	--	73	75	74	75	74	75	74	75	72
65	--	74	76	74	75	75	75	74	76	72
66	--	76	77	75	76	75	75	74	76	72
67	--	77	77	75	76	76	76	75	76	72
68	--	--	77	75	76	76	76	75	76	72
69	--	--	78	76	77	76	76	75	77	72
70	--	--	78	76	77	77	76	76	77	73
71	--	--	78	76	77	77	77	76	77	73
72	--	--	79	77	78	77	77	76	77	73
73	--	--	79	78	78	77	77	76	77	73
74	--	--	79	80	79	77	78	76	77	73
75	--	--	80	81	80	78	78	76	77	73
76	--	--	80	81	80	78	78	77	77	74
77	--	--	--	82	81	78	78	77	77	74
78	--	--	--	82	81	78	79	78	78	74
79	--	--	--	83	81	78	79	78	78	--
80	--	--	--	--	82	79	79	78	78	--
81	--	--	--	--	82	79	80	78	78	--
82	--	--	--	--	82	79	81	78	78	--
83	--	--	--	--	83	80	81	79	78	--
84	--	--	--	--	83	80	82	80	78	--
85	--	--	--	--	85	81	82	80	78	--
86	--	--	--	--	86	82	82	81	79	--
87	--	--	--	--	--	83	82	82	79	--
88	--	--	--	--	--	84	82	83	79	--
89	--	--	--	--	--	84	83	83	79	--
90	--	--	--	--	--	84	83	84	79	--
91	--	--	--	--	--	84	83	85	80	--
92	--	--	--	--	--	85	84	85	80	--
93	--	--	--	--	--	85	84	86	80	--
94	--	--	--	--	--	85	84	86	80	--
95	--	--	--	--	--	85	84	86	80	--
96	--	--	--	--	--	85	85	86	81	--
97	--	--	--	--	--	85	85	87	81	--
98	--	--	--	--	--	87	85	87	81	--
99	--	--	--	--	--	87	86	--	--	--
100	--	--	--	--	--	88	87	--	--	--

TABLE C-1. TABLE OF INITIAL, RAW-SCORE TRANSFORMATION COEFFICIENTS FOR DIMENSION C - PEOPLE ORIENTED.

NO. OF NOMINATORS	N-U-M-B-E-R O-F N-O-M-I-N-E-E-S									
	29-29	31-33	34-36	37-39	40-42	43-45	46-48	49-51	52-54	58-58
21	74.581	93.912	91.966	96.204	102.835	107.451	111.721	116.574	127.384	130.185
22	74.888	94.297	92.342	96.597	103.254	107.888	112.175	117.047	127.800	130.713
23	75.171	94.652	92.689	96.960	103.641	108.292	112.595	117.484	128.377	131.199
24	75.434	94.982	93.011	97.296	104.000	108.666	112.983	117.889	128.819	131.650
25	75.678	95.288	93.310	97.608	104.333	109.014	113.344	118.265	129.230	132.069
26	75.905	95.573	93.589	97.899	104.643	109.338	113.680	118.615	129.613	132.460
27	76.117	95.840	93.649	98.171	104.933	109.640	113.994	118.943	129.970	132.824
28	76.315	96.089	94.093	98.425	105.204	109.923	114.288	119.249	130.304	133.166
29	76.502	96.323	94.321	98.663	105.459	110.189	114.564	119.536	130.618	133.486
30	---	96.543	94.536	98.888	105.698	110.438	114.823	119.806	130.913	133.786
31	---	96.750	94.738	99.099	105.923	110.673	115.067	120.060	131.190	134.070
32	---	96.945	94.929	99.298	106.136	110.895	115.297	120.300	131.452	134.337
33	---	97.130	95.109	99.486	106.336	111.104	115.514	120.527	131.699	134.589
34	---	---	95.280	99.664	106.526	111.302	115.720	120.741	131.933	134.828
35	---	---	95.441	99.833	106.706	111.490	115.915	120.944	132.155	135.054
36	---	---	95.595	99.993	106.877	111.668	116.100	121.137	132.366	135.269
37	---	---	---	100.145	107.039	111.838	116.276	121.321	132.566	135.473
38	---	---	---	100.290	107.194	111.999	116.443	121.495	132.756	135.667
39	---	---	---	100.428	107.341	112.153	116.603	121.661	132.937	135.853
40	---	---	---	---	107.482	112.299	116.755	121.820	133.110	136.029
41	---	---	---	---	107.616	112.439	116.900	121.971	133.276	136.198
42	---	---	---	---	107.744	112.572	117.039	122.116	133.433	136.359
43	---	---	---	---	---	112.700	117.172	122.254	133.584	136.513
44	---	---	---	---	---	112.823	117.299	122.387	133.729	136.660
45	---	---	---	---	---	112.940	117.421	122.514	133.868	136.802
46	---	---	---	---	---	---	117.538	122.635	134.001	136.938
47	---	---	---	---	---	---	117.650	122.753	134.129	137.068
48	---	---	---	---	---	---	117.758	122.865	134.251	137.193
49	---	---	---	---	---	---	---	122.973	134.369	137.314
50	---	---	---	---	---	---	---	123.077	134.483	137.430
51	---	---	---	---	---	---	---	123.178	134.593	137.541
52	---	---	---	---	---	---	---	---	134.698	137.649
53	---	---	---	---	---	---	---	---	134.800	137.753
54	---	---	---	---	---	---	---	---	134.898	137.853
55	---	---	---	---	---	---	---	---	---	137.950
56	---	---	---	---	---	---	---	---	---	138.043
57	---	---	---	---	---	---	---	---	---	138.134
58	---	---	---	---	---	---	---	---	---	138.221
NORMATIVE SAMPLE N=	29	129	390	1107	2924	6807	8968	5525	1215	58

TABLE C-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION C - PEOPLE ORIENTED.

TRANSFORMED RAW-SCORE	29-29	31-33	N-U-M-B-E-R 34-36	37-39	O-F 40-42	N-O-M-I-N-E-E-S 43-45	45-48	49-51	52-54	58-58
-100	--	--	--	--	--	16	16	16	17	--
-99	--	--	--	--	--	18	17	17	17	--
-98	--	--	--	--	--	18	17	18	18	--
-97	--	--	--	--	--	19	18	19	18	--
-96	--	--	--	--	--	19	19	20	19	--
-95	--	--	--	--	14	19	20	20	19	--
-94	--	--	--	--	16	19	20	20	20	--
-93	--	--	--	--	17	19	21	20	20	--
-92	--	--	--	--	19	19	21	21	21	--
-91	--	--	--	--	20	20	21	21	21	--
-90	--	--	--	--	21	21	21	21	22	--
-89	--	--	20	--	21	21	21	22	22	--
-88	--	--	22	17	21	21	21	22	23	--
-87	--	--	24	19	22	21	22	23	23	--
-86	--	--	24	20	22	21	22	23	24	--
-85	--	--	24	22	22	22	22	23	25	--
-84	--	--	24	24	22	22	22	23	25	--
-83	--	--	25	24	22	22	23	24	25	--
-82	--	--	25	24	23	23	23	24	25	--
-81	--	--	25	24	23	23	23	24	26	--
-80	--	--	25	24	23	23	24	25	26	--
-79	--	--	25	24	23	24	24	25	26	--
-78	--	--	25	24	23	24	24	25	26	--
-77	--	--	25	24	23	24	24	25	26	28
-76	--	--	26	24	23	24	25	26	26	27
-75	--	--	26	24	24	24	25	26	26	27
-74	--	--	26	25	24	25	25	26	27	28
-73	--	--	26	25	25	25	26	26	27	28
-72	--	--	27	25	25	25	26	26	27	29
-71	--	--	28	26	25	25	26	27	27	29
-70	--	--	28	26	25	26	27	27	27	30
-69	--	23	29	27	26	26	27	27	27	30
-68	--	23	29	28	26	27	27	27	28	31
-67	--	24	29	28	27	27	27	27	28	31
-66	--	24	29	28	27	27	28	28	28	31
-65	--	24	30	28	27	27	28	28	28	31
-64	--	25	30	28	28	28	28	28	28	31
-63	--	25	30	29	28	28	28	28	29	32
-62	--	25	30	29	29	28	29	29	29	32
-61	--	26	31	29	29	28	29	29	30	32

TABLE C-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION C - PEOPLE ORIENTED.

TRANSFORMED RAW-SCORE	29-29	31-33	N-J-M-B-E-R 34-36	37-39	O-F 40-42	N-O-M-I-N-E-S 43-45	46-48	49-51	52-54	58-59
-60	--	26	31	29	29	29	29	29	30	32
-59	--	26	31	29	29	29	29	30	30	32
-58	--	27	31	30	30	29	30	30	30	32
-57	--	27	31	30	30	30	30	30	31	32
-56	--	28	32	30	30	30	30	30	31	33
-55	--	28	32	31	30	30	31	31	32	33
-54	--	29	32	31	31	31	31	31	32	33
-53	--	29	32	31	31	31	31	31	32	33
-52	--	30	32	31	31	31	32	31	32	33
-51	--	30	33	31	32	32	32	32	32	33
-50	--	31	33	32	32	32	32	32	33	34
-49	--	31	33	32	32	32	32	32	33	34
-48	--	32	33	32	32	33	32	32	33	34
-47	--	32	33	32	32	33	33	33	33	34
-46	--	32	33	33	33	33	33	33	34	34
-45	--	33	34	33	33	34	33	33	34	35
-44	32	33	34	34	33	34	34	34	34	35
-43	33	33	34	34	34	34	34	34	34	35
-42	33	33	34	34	34	34	34	34	35	37
-41	34	34	34	35	34	34	34	35	35	37
-40	34	34	35	35	35	35	35	35	35	37
-39	35	35	35	35	35	35	35	35	35	38
-38	35	35	35	36	35	35	35	35	36	38
-37	36	36	35	36	35	36	35	36	36	38
-36	36	36	36	36	36	36	36	36	36	38
-35	36	37	36	36	36	36	36	36	36	38
-34	37	37	37	36	36	36	36	36	36	38
-33	37	38	37	37	37	37	37	37	37	38
-32	38	38	37	37	37	37	37	37	37	38
-31	38	38	38	37	37	37	37	37	37	38
-30	39	39	38	38	38	38	38	37	37	39
-29	39	39	38	38	38	38	38	38	38	39
-28	40	39	38	38	38	38	38	38	38	39
-27	40	39	39	38	39	38	38	38	38	39
-26	40	39	39	39	39	39	39	39	39	39
-25	41	40	39	39	39	39	39	39	39	39
-24	41	40	39	40	40	39	39	39	39	39
-23	41	41	39	40	40	40	40	39	39	39
-22	41	41	40	40	40	40	40	40	40	39
-21	41	41	40	41	41	40	40	40	40	39

TABLE C-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION C - PEOPLE ORIENTED.

TRANSFORMED RAW-SCORE	29-29	31-33	N-U-M-B-E-R 34-36	37-39	O-F 40-42	N-O-M-I-N-E-E-S 43-45	46-48	49-51	52-54	58-59
-20	42	42	41	41	41	41	41	40	40	39
-19	42	42	41	42	41	41	41	41	41	39
-18	42	43	41	42	42	41	41	41	41	40
-17	42	43	42	42	42	42	42	41	41	40
-16	42	43	42	42	43	42	42	42	42	40
-15	43	43	42	43	43	42	42	42	42	40
-14	44	44	43	43	43	43	43	42	42	40
-13	45	44	43	43	44	43	43	43	43	40
-12	45	44	43	44	44	44	43	43	43	41
-11	46	44	44	44	44	44	44	44	43	41
-10	46	45	44	44	45	45	44	44	44	42
-9	46	45	44	45	45	45	45	45	44	42
-8	47	46	45	45	46	45	45	45	45	43
-7	47	47	45	46	46	46	45	45	45	43
-6	47	47	46	46	46	46	46	46	46	44
-5	48	48	47	47	47	47	47	46	46	45
-4	48	48	47	47	47	47	47	47	46	45
-3	49	49	47	48	48	48	47	47	47	45
-2	49	49	48	49	49	49	48	48	48	47
-1	50	50	48	49	49	49	49	49	48	49
0	50	50	49	50	50	50	50	50	49	50
1	51	50	50	50	50	51	51	51	50	51
2	51	51	50	51	51	51	51	51	51	52
3	52	51	51	51	51	52	52	52	52	53
4	53	52	52	52	52	52	52	53	53	53
5	53	52	52	53	52	53	53	53	54	54
6	54	53	53	53	53	53	53	53	54	54
7	54	53	53	53	53	54	54	54	54	54
8	54	53	54	53	54	54	54	54	55	54
9	54	54	54	54	54	55	55	55	55	55
10	54	55	53	54	55	55	55	55	55	55
11	55	55	55	55	55	55	56	56	56	55
12	56	55	55	55	55	56	56	56	56	56
13	56	56	56	56	56	56	56	57	56	56
14	57	57	56	56	56	57	57	57	57	56
15	58	57	57	57	57	57	57	57	57	57
16	59	57	57	57	57	58	58	58	57	57
17	60	57	57	58	57	58	58	58	58	58
18	60	58	58	58	58	59	58	59	58	59
19	60	58	58	59	58	59	59	59	59	59
20	60	59	59	59	59	59	59	60	59	60

TABLE C-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION C - PEOPLE ORIENTED.

TRANSFORMED RAW-SCORE	29-29	31-33	N-J-M-B-E-R 34-36	37-39	O-F 40-42	N-O-M-I-N-E-E-S 43-45	46-48	49-51	52-54	58-59
21	60	60	59	59	59	60	60	60	59	59
22	61	60	60	60	60	60	60	60	60	61
23	61	60	60	60	60	60	60	61	60	61
24	61	61	60	61	61	61	61	61	61	61
25	61	61	61	61	61	61	61	61	61	62
26	61	61	61	62	61	61	62	62	62	62
27	61	61	61	62	62	62	62	62	62	62
28	61	62	62	63	62	62	62	62	62	62
29	61	63	63	63	63	62	62	63	62	62
30	62	63	63	63	63	63	63	63	63	63
31	62	63	64	64	64	63	63	63	63	63
32	62	63	64	64	64	64	64	64	64	63
33	62	63	64	64	64	64	64	64	64	65
34	62	63	64	64	65	64	64	64	64	65
35	63	63	65	65	65	64	64	65	65	65
36	63	63	65	65	65	65	65	65	65	65
37	64	63	65	66	66	65	65	65	65	67
38	64	64	67	66	66	65	66	66	66	67
39	64	65	67	66	66	65	66	66	66	68
40	64	65	67	66	66	66	66	66	67	69
41	64	66	68	67	67	66	66	66	67	68
42	65	66	68	67	67	67	67	67	67	68
43	65	67	69	67	67	67	67	67	68	69
44	65	68	69	68	68	67	67	67	68	69
45	65	68	69	68	68	67	68	68	68	69
46	65	69	70	68	68	68	68	68	69	69
47	65	69	70	68	68	68	69	68	69	70
48	66	70	71	69	69	69	69	69	69	70
49	66	71	71	69	69	69	69	69	69	70
50	66	71	72	69	69	69	70	69	70	70
51	66	71	73	70	70	69	70	70	70	71
52	67	71	73	70	70	70	70	70	70	71
53	67	72	73	70	70	70	70	70	71	71
54	68	72	74	70	71	70	71	71	72	71
55	69	72	74	71	71	71	71	71	72	72
56	70	72	74	71	72	71	71	71	72	72
57	70	72	75	71	72	72	72	72	72	72
58	71	72	75	72	72	72	72	72	73	72
59	--	72	75	72	72	72	72	72	73	73
60	--	72	75	73	72	73	72	72	73	73

TABLE C-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION C - PEOPLE ORIENTED.

TRANSFORMED RAW-SCORE	29-29	31-33	N-U-M-B-E-R 34-36	37-39	O-F 40-42	N-O-M-I-N-E-E-S 43-45	46-48	49-51	52-54	58-58
61	--	73	75	74	73	73	73	73	74	73
62	--	73	77	74	73	73	73	73	74	73
63	--	73	77	75	74	73	73	73	75	74
64	--	73	78	75	74	74	73	73	75	74
65	--	73	79	75	74	74	74	74	75	74
66	--	73	79	75	75	75	74	74	76	--
67	--	74	80	75	75	75	74	74	76	--
68	--	74	--	76	75	75	75	74	77	--
69	--	74	--	77	76	76	75	74	77	--
70	--	75	--	78	76	76	76	75	77	--
71	--	75	--	78	76	77	76	75	78	--
72	--	76	--	79	76	78	76	75	78	--
73	--	76	--	79	76	78	77	76	79	--
74	--	76	--	80	76	78	77	76	79	--
75	--	77	--	80	76	79	78	77	79	--
76	--	77	--	81	76	79	78	77	80	--
77	--	--	--	82	76	80	78	78	80	--
78	--	--	--	82	77	80	78	79	80	--
79	--	--	--	83	77	80	78	80	80	--
80	--	--	--	--	77	80	79	80	80	--
81	--	--	--	--	77	80	79	80	80	--
82	--	--	--	--	78	81	79	80	81	--
83	--	--	--	--	78	81	80	81	81	--
84	--	--	--	--	80	81	80	81	81	--
85	--	--	--	--	81	81	81	81	81	--
86	--	--	--	--	82	81	81	81	81	--
87	--	--	--	--	82	82	82	81	81	--
88	--	--	--	--	83	82	83	81	81	--
89	--	--	--	--	86	83	84	82	82	--
90	--	--	--	--	--	83	85	82	82	--
91	--	--	--	--	--	84	86	82	82	--
92	--	--	--	--	--	85	87	82	82	--
93	--	--	--	--	--	87	88	82	82	--
94	--	--	--	--	--	88	89	82	82	--
95	--	--	--	--	--	--	--	82	82	--
96	--	--	--	--	--	--	--	82	82	--
97	--	--	--	--	--	--	--	82	83	--
98	--	--	--	--	--	--	--	82	83	--
99	--	--	--	--	--	--	--	84	83	--
100	--	--	--	--	--	--	--	85	83	--

TABLE D-1. TABLE OF INITIAL, RAW-SCORE TRANSFORMATION COEFFICIENTS FOR DIMENSION D - CALM/EMOTIONALLY STABLE.

NO. OF NOMINATORS	29-29	31-33	34-36	N-U-M-B-E-R 37-39	O-F 40-42	N-O-M-I-N-E-E-S 43-45	46-48	49-51	52-54	58-58
21	78.231	97.358	94.952	100.162	103.535	111.148	117.297	118.217	123.461	139.649
22	78.578	97.788	95.370	100.602	103.990	111.635	117.811	118.734	124.000	140.256
23	78.898	98.185	95.757	101.009	104.410	112.086	118.286	119.212	124.499	140.821
24	79.195	98.554	96.115	101.387	104.800	112.504	118.726	119.655	124.961	141.343
25	79.471	98.897	96.449	101.738	105.162	112.892	119.135	120.067	125.391	141.829
26	79.729	99.216	96.760	102.065	105.500	113.254	119.517	120.451	125.792	142.282
27	79.970	99.515	97.051	102.371	105.815	113.593	119.874	120.810	126.166	142.705
28	80.195	99.795	97.323	102.658	106.111	113.909	120.208	121.146	126.517	143.101
29	80.407	100.057	97.578	102.927	106.389	114.207	120.521	121.462	126.846	143.473
30	---	100.304	97.818	103.180	106.649	114.487	120.816	121.759	127.156	143.822
31	---	100.537	98.045	103.418	106.895	114.753	121.094	122.038	127.447	144.152
32	---	100.757	98.258	103.643	107.127	114.993	121.356	122.302	127.723	144.463
33	---	100.964	98.460	103.855	107.347	115.234	121.603	122.551	127.983	144.756
34	---	---	98.651	104.057	107.554	115.456	121.838	122.788	128.229	145.035
35	---	---	98.833	104.247	107.751	115.667	122.060	123.011	128.463	145.298
36	---	---	99.005	104.429	107.938	115.868	122.272	123.224	128.684	145.549
37	---	---	---	104.601	108.116	116.059	122.472	123.426	128.895	145.787
38	---	---	---	104.765	108.285	116.240	122.663	123.618	129.096	146.014
39	---	---	---	104.921	108.446	116.412	122.845	123.802	129.287	146.230
40	---	---	---	---	108.600	116.577	123.019	123.977	129.470	146.436
41	---	---	---	---	108.747	116.735	123.185	124.144	129.644	146.632
42	---	---	---	---	108.887	116.885	123.344	124.303	129.811	146.821
43	---	---	---	---	---	117.030	123.496	124.456	129.970	147.001
44	---	---	---	---	---	117.168	123.641	124.603	130.123	147.173
45	---	---	---	---	---	117.300	123.781	124.743	130.269	147.339
46	---	---	---	---	---	---	123.915	124.878	130.410	147.497
47	---	---	---	---	---	---	124.043	125.007	130.545	147.650
48	---	---	---	---	---	---	124.167	125.132	130.675	147.797
49	---	---	---	---	---	---	---	125.251	130.800	147.936
50	---	---	---	---	---	---	---	125.367	130.920	148.073
51	---	---	---	---	---	---	---	125.476	131.036	148.204
52	---	---	---	---	---	---	---	---	131.147	148.330
53	---	---	---	---	---	---	---	---	131.255	148.452
54	---	---	---	---	---	---	---	---	131.359	148.569
55	---	---	---	---	---	---	---	---	---	148.682
56	---	---	---	---	---	---	---	---	---	148.792
57	---	---	---	---	---	---	---	---	---	148.896
58	---	---	---	---	---	---	---	---	---	149.001
NORMATIVE SAMPLE N=	29	129	390	1107	2924	6807	8968	5525	1216	58

TABLE D-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION D - CALM/EMOTIONALLY STABLE.

TRANSFORMED RAW-SCORE	29-29	31-33	N-U-M-B-E-R 34-36	37-39	O-F 40-42	N-U-M-I-N-E-S 43-45	45-48	49-51	52-54	58-33
-100	--	--	--	--	14	15	17	19	--	--
-99	--	--	--	--	15	18	20	22	17	--
-98	--	--	--	17	15	19	20	22	18	--
-97	--	--	--	17	16	19	20	22	19	--
-96	--	--	--	17	16	20	20	23	19	--
-95	--	--	--	18	17	20	21	23	20	--
-94	--	--	--	18	17	20	21	23	21	--
-93	--	--	--	18	19	21	21	24	21	--
-92	--	--	--	18	20	21	22	24	22	--
-91	--	--	--	18	20	22	22	24	22	--
-90	--	--	--	19	21	22	22	24	22	--
-89	--	--	20	19	22	22	23	25	23	--
-88	--	--	20	19	22	23	23	25	23	--
-87	--	--	21	19	22	23	23	25	23	--
-86	--	--	21	19	22	23	23	25	24	--
-85	--	--	21	20	23	24	23	25	24	--
-84	--	--	21	20	23	24	24	26	24	--
-83	--	--	22	20	23	25	24	26	25	--
-82	--	--	22	21	23	25	24	26	25	--
-81	--	--	22	22	24	25	24	26	25	--
-80	--	--	22	22	25	25	25	27	25	--
-79	--	--	23	22	25	25	25	27	26	--
-78	--	--	23	23	25	26	25	27	26	--
-77	--	--	23	23	26	25	26	27	26	--
-76	--	--	23	23	26	27	26	28	27	--
-75	--	--	24	24	26	27	26	28	27	25
-74	--	--	24	25	27	27	27	28	27	27
-73	--	--	24	25	27	27	27	28	28	27
-72	--	--	24	25	27	27	27	28	28	28
-71	--	--	25	26	27	28	27	28	28	28
-70	--	--	25	26	27	28	28	29	28	29
-69	--	--	25	26	28	28	28	29	28	29
-68	29	--	25	26	28	28	28	29	28	30
-67	30	23	25	27	28	29	28	29	28	30
-66	30	24	25	27	28	29	28	29	28	31
-65	31	24	26	28	29	29	29	29	29	31
-64	32	25	27	28	29	29	29	30	29	32
-63	33	25	28	28	29	29	29	30	29	33
-62	33	26	29	29	29	30	30	30	29	33
-61	34	26	30	29	30	30	30	30	30	34

TABLE D-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION D - CALM/EMOTIONALLY STABLE.

TRANSFORMED RAW-SCORE	29-29	31-33	N-U-M-B-E-R 34-36	37-39	O-F 40-42	N-J-M-I-N-I-E-S 43-45	46-48	49-51	52-54	58-58
-60	34	27	30	29	30	30	30	30	30	34
-59	34	28	31	30	30	30	30	31	31	34
-58	34	28	31	30	31	31	31	31	31	34
-57	34	29	31	30	31	31	31	31	31	34
-56	34	29	31	30	31	31	31	31	31	34
-55	34	30	31	30	32	31	31	32	32	35
-54	35	31	31	30	32	32	32	32	32	35
-53	35	31	31	31	32	32	32	32	32	35
-52	35	32	32	31	32	32	32	32	33	35
-51	35	32	32	32	33	33	32	32	33	35
-50	35	32	32	32	33	33	33	33	33	35
-49	35	32	32	32	33	33	33	33	33	35
-48	35	33	33	33	33	33	33	33	34	35
-47	35	33	33	33	34	33	33	33	34	35
-46	35	33	34	33	34	34	33	34	34	35
-45	35	33	34	33	34	34	34	34	34	36
-44	35	33	34	34	34	34	34	34	34	36
-43	35	33	34	34	34	34	35	34	35	36
-42	36	33	35	34	35	35	35	35	35	36
-41	36	34	35	34	35	35	35	35	35	36
-40	36	34	35	35	35	35	35	35	35	36
-39	36	34	35	35	35	35	35	35	35	38
-38	36	34	35	35	36	36	36	36	36	37
-37	36	35	36	36	36	36	36	36	36	37
-36	36	36	36	36	36	36	36	36	36	37
-35	36	37	37	36	36	36	37	36	36	37
-34	37	37	37	37	37	37	37	36	37	39
-33	37	37	37	37	37	37	37	37	37	39
-32	37	38	37	37	37	37	37	37	37	39
-31	37	39	38	37	38	37	38	37	37	39
-30	38	39	38	38	38	38	38	37	38	39
-29	38	40	38	38	38	38	38	39	38	39
-28	38	40	39	38	38	38	38	39	38	39
-27	39	40	39	39	39	39	39	38	38	39
-26	39	40	39	39	39	39	39	38	39	39
-25	39	40	39	39	39	39	39	39	39	39
-24	39	40	40	39	40	39	39	39	39	39
-23	40	40	40	40	40	40	40	39	39	39
-22	40	41	41	40	40	40	40	39	40	39
-21	40	42	41	41	41	40	40	40	40	39

TABLE D-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION D - CALM/EMOTIONALLY STABLE.

TRANSFORMED RAW-SCORE	29-29	31-33	N-J-M-B-E-R 34-36	37-39	O-F 40-42	N-O-M-I-N-E-E-S 43-45	46-48	49-51	52-54	56-58
-20	40	43	41	41	41	41	41	40	40	40
-19	41	43	42	42	41	41	41	40	41	40
-18	41	44	42	42	41	41	41	41	41	40
-17	41	44	43	43	42	42	42	41	41	41
-16	42	44	43	43	42	42	42	41	41	41
-15	42	44	43	43	43	42	42	42	42	42
-14	42	44	44	44	43	43	43	42	42	42
-13	43	44	44	44	43	43	43	42	42	42
-12	43	44	44	44	44	43	43	43	43	42
-11	44	44	44	45	44	44	44	43	43	42
-10	44	45	45	45	44	44	44	43	43	43
-9	44	45	45	45	45	44	44	44	44	43
-8	45	46	45	45	45	45	45	44	44	44
-7	45	46	46	46	45	45	45	45	44	44
-6	45	47	47	46	46	46	45	45	45	44
-5	46	47	47	47	46	46	46	46	45	45
-4	46	48	47	47	46	46	46	45	45	45
-3	46	48	48	48	47	47	47	47	46	46
-2	46	49	48	48	48	48	48	48	47	47
-1	47	49	49	49	48	48	48	48	48	47
0	47	49	49	49	49	49	49	49	49	48
1	48	50	50	50	50	50	50	50	50	49
2	49	50	50	50	50	50	50	50	51	49
3	50	51	51	51	51	51	51	51	52	50
4	51	51	51	52	51	52	52	52	53	51
5	52	52	52	52	52	52	52	52	53	51
6	53	52	52	53	52	52	52	53	53	52
7	54	52	52	53	53	53	53	53	54	52
8	54	53	52	54	53	53	53	54	54	52
9	55	54	53	54	54	54	54	54	55	53
10	55	54	53	55	54	55	55	55	55	53
11	55	55	54	55	55	55	55	55	56	55
12	55	55	54	55	55	55	55	56	56	55
13	56	55	55	56	56	56	56	56	57	57
14	56	55	56	56	56	55	56	57	57	58
15	56	56	56	57	57	57	57	57	58	59
16	56	56	55	57	57	57	57	58	58	59
17	57	57	57	57	57	58	58	58	58	60
18	57	57	57	58	58	58	58	59	59	60
19	57	57	58	59	58	59	59	59	59	60
20	57	57	58	59	59	59	59	60	60	61

TABLE D-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION D - CALM/EMOTIONALLY STABLE.

TRANSFORMED RAW-SCORE	29-29	31-33	N-U-M-B-E-R 34-36	37-39	D-F 40-42	N-U-M-I-N-E-S 43-45	46-48	49-51	52-54	58-58
21	57	58	59	59	59	60	60	60	60	61
22	58	59	59	60	60	60	60	60	60	61
23	58	60	60	60	60	60	60	61	61	62
24	58	60	61	60	61	61	61	61	61	62
25	59	60	61	61	61	61	61	62	62	62
26	59	60	61	61	62	62	62	62	62	62
27	60	61	62	61	62	62	62	62	62	63
28	60	61	62	62	62	62	63	63	63	63
29	63	61	62	62	63	63	63	63	63	63
30	64	61	63	63	63	63	63	64	64	63
31	65	62	64	63	64	64	64	64	64	64
32	66	62	64	64	64	64	64	64	65	64
33	67	63	64	64	64	64	65	65	65	65
34	67	64	64	65	65	65	65	65	65	65
35	68	64	65	65	65	65	65	65	66	65
36	69	64	66	65	66	66	66	66	66	65
37	69	65	65	66	66	66	66	66	66	67
38	70	65	66	66	66	66	67	67	67	68
39	70	66	67	66	67	67	67	67	67	69
40	71	66	68	67	68	67	67	67	67	69
41	--	66	68	67	68	68	68	68	68	70
42	--	68	68	68	68	68	68	68	68	70
43	--	69	69	68	69	69	68	69	68	70
44	--	69	69	68	69	69	69	69	68	71
45	--	70	70	68	69	69	69	69	69	71
46	--	70	71	69	70	70	69	70	69	71
47	--	71	71	69	70	70	70	70	69	72
48	--	71	72	69	71	70	70	70	69	72
49	--	71	72	69	71	71	70	71	69	72
50	--	72	72	69	72	71	71	71	70	73
51	--	72	73	70	72	71	71	71	71	73
52	--	73	73	70	73	72	72	71	71	73
53	--	73	73	71	73	72	72	72	71	74
54	--	75	73	71	73	72	72	72	71	74
55	--	77	73	71	74	72	73	73	71	--
56	--	--	74	71	74	73	73	73	71	--
57	--	--	74	71	74	73	73	73	71	--
58	--	--	75	72	75	74	74	74	72	--
59	--	--	75	72	75	74	74	74	72	--
60	--	--	75	72	76	75	75	74	72	--

TABLE D-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION D - CALM/EMOTIONALLY STABLE.

TRANSFORMED RAW-SCORE	29-29	31-33	N-J-M-B-E-R 34-36	37-39	O-F 40-42	N-J-M-I-N-E-E-S 43-45	45-48	49-51	52-54	58-38
61	--	--	77	72	76	76	75	74	72	--
62	--	--	78	72	77	76	75	75	73	--
63	--	--	79	73	77	75	76	75	73	--
64	--	--	79	73	77	77	76	75	74	--
65	--	--	80	74	77	77	76	76	74	--
66	--	--	--	75	78	77	77	76	74	--
67	--	--	--	75	78	77	77	76	74	--
68	--	--	--	76	79	77	77	77	75	--
69	--	--	--	77	80	78	77	77	75	--
70	--	--	--	78	80	78	78	77	75	--
71	--	--	--	79	80	78	78	78	76	--
72	--	--	--	80	80	79	78	79	77	--
73	--	--	--	80	80	79	79	79	77	--
74	--	--	--	81	80	79	79	80	78	--
75	--	--	--	--	80	79	79	80	78	--
76	--	--	--	--	81	79	79	80	78	--
77	--	--	--	--	81	80	80	81	78	--
78	--	--	--	--	81	81	80	81	79	--
79	--	--	--	--	81	83	80	82	79	--
80	--	--	--	--	83	83	80	82	79	--
81	--	--	--	--	84	83	80	82	79	--
82	--	--	--	--	--	84	81	82	79	--
83	--	--	--	--	--	84	81	82	80	--
84	--	--	--	--	--	84	83	82	80	--
85	--	--	--	--	--	84	84	82	80	--
86	--	--	--	--	--	85	84	83	81	--
87	--	--	--	--	--	85	85	83	81	--
88	--	--	--	--	--	85	85	83	--	--
89	--	--	--	--	--	85	86	83	--	--
90	--	--	--	--	--	86	86	83	--	--
91	--	--	--	--	--	86	87	83	--	--
92	--	--	--	--	--	86	87	83	--	--
93	--	--	--	--	--	86	87	84	--	--
94	--	--	--	--	--	87	88	84	--	--
95	--	--	--	--	--	87	88	85	--	--
96	--	--	--	--	--	87	88	85	--	--
97	--	--	--	--	--	87	89	86	--	--
98	--	--	--	--	--	88	89	86	--	--
99	--	--	--	--	--	88	--	87	--	--
100	--	--	--	--	--	--	--	87	--	--

TABLE E-1. TABLE OF INITIAL, RAW-SCORE TRANSFORMATION COEFFICIENTS FOR DIMENSION E - BRIGHT/INTELLIGENT.

NO. OF NOMINATORS	29-29	31-33	34-36	37-39	40-42	43-45	46-48	49-51	52-54	56-58
				N-U-M-B-E-R O-F N-O-M-I-N-E-E-S						
21	84.601	82.133	81.761	84.289	91.446	94.992	99.753	104.442	107.203	123.426
22	84.851	82.374	82.000	84.536	91.713	95.269	100.043	104.746	107.515	123.765
23	85.080	82.596	82.221	84.763	91.959	95.524	100.311	105.025	107.801	124.114
24	85.292	82.802	82.425	84.972	92.186	95.760	100.558	105.283	108.066	124.419
25	85.489	82.992	82.614	85.167	92.396	95.978	100.787	105.523	108.311	124.701
26	85.672	83.169	82.789	85.347	92.592	96.181	100.999	105.745	108.539	124.963
27	85.842	83.333	82.953	85.515	92.774	96.370	101.197	105.952	108.752	125.207
28	86.000	83.487	83.105	85.672	92.944	96.546	101.382	106.146	108.950	125.435
29	86.149	83.631	83.248	85.819	93.103	96.711	101.555	106.327	109.136	125.648
30	---	83.766	83.382	85.957	93.252	96.865	101.719	106.496	109.310	125.848
31	---	83.893	83.508	86.087	93.392	97.011	101.870	106.656	109.473	126.036
32	---	84.012	83.627	86.209	93.525	97.148	102.014	106.806	109.627	126.213
33	---	84.125	83.739	86.324	93.649	97.278	102.149	106.948	109.773	126.380
34	---	---	83.844	86.433	93.767	97.401	102.277	107.082	109.910	126.538
35	---	---	83.944	86.535	93.878	97.515	102.398	107.208	110.040	126.687
36	---	---	84.039	86.633	93.984	97.625	102.513	107.328	110.163	126.829
37	---	---	---	86.725	94.084	97.729	102.622	107.442	110.280	126.963
38	---	---	---	86.813	94.179	97.827	102.726	107.551	110.391	127.091
39	---	---	---	86.897	94.270	97.921	102.824	107.654	110.496	127.212
40	---	---	---	---	94.356	98.011	102.918	107.752	110.597	127.328
41	---	---	---	---	94.438	98.095	103.008	107.846	110.693	127.438
42	---	---	---	---	94.517	98.175	103.093	107.935	110.784	127.543
43	---	---	---	---	---	98.255	103.175	108.020	110.872	127.644
44	---	---	---	---	---	98.330	103.253	108.102	110.956	127.740
45	---	---	---	---	---	98.401	103.328	108.180	111.036	127.833
46	---	---	---	---	---	---	103.399	108.255	111.113	127.921
47	---	---	---	---	---	---	103.468	108.327	111.187	128.006
48	---	---	---	---	---	---	103.534	108.396	111.258	128.087
49	---	---	---	---	---	---	---	108.463	111.325	128.166
50	---	---	---	---	---	---	---	108.526	111.391	128.241
51	---	---	---	---	---	---	---	108.588	111.454	128.313
52	---	---	---	---	---	---	---	---	111.515	128.383
53	---	---	---	---	---	---	---	---	111.573	128.450
54	---	---	---	---	---	---	---	---	111.630	128.515
55	---	---	---	---	---	---	---	---	---	128.578
56	---	---	---	---	---	---	---	---	---	128.638
57	---	---	---	---	---	---	---	---	---	128.696
58	---	---	---	---	---	---	---	---	---	128.753
NORMATIVE SAMPLE N=	29	129	330	1107	2924	6807	8968	3525	1216	58

TABLE E-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION E - BRIGHT/INTELLIGENT.

TRANSFORMED RAW-SCORE	29-29	31-33	N-U-M-B-E-R 34-36	37-39	O-F 40-42	N-J-M-I-N-E-S 43-45	46-48	49-51	52-54	56-33
-100	--	--	--	--	--	--	--	16	17	--
-99	--	--	--	--	--	--	--	18	17	--
-98	--	--	--	--	--	--	--	19	18	--
-97	--	--	--	--	--	--	--	20	18	--
-96	--	--	--	--	--	--	--	20	18	--
-95	--	--	--	--	--	--	13	20	19	--
-94	--	--	--	--	--	12	15	21	19	--
-93	--	--	--	--	--	13	17	21	19	--
-92	--	--	--	--	--	15	18	21	20	--
-91	--	--	--	--	14	16	19	22	20	--
-90	--	--	--	--	16	17	19	23	21	--
-89	--	--	--	--	17	19	20	23	21	--
-88	--	--	--	--	19	20	21	23	22	--
-87	--	--	--	--	20	20	21	24	22	--
-86	--	--	--	--	20	21	22	24	23	--
-85	--	--	--	--	20	22	23	24	23	--
-84	--	--	--	--	21	23	23	24	23	--
-83	--	23	--	--	22	23	23	25	24	--
-82	--	23	--	--	23	23	24	25	24	--
-81	--	23	20	17	23	23	24	26	24	--
-80	--	24	21	20	23	24	25	26	24	--
-79	--	24	21	22	24	24	25	26	25	--
-78	--	24	22	22	24	25	25	26	25	29
-77	--	24	22	23	25	25	26	27	26	29
-76	--	24	23	23	25	25	26	27	26	29
-75	--	25	25	24	26	26	26	27	26	29
-74	--	25	26	24	26	26	27	27	27	29
-73	--	25	27	25	26	27	27	28	27	30
-72	--	25	27	26	27	27	27	28	27	30
-71	--	25	28	27	27	28	28	28	28	30
-70	--	26	28	28	28	28	28	28	28	30
-69	--	26	29	28	28	28	28	28	28	30
-68	--	26	29	28	28	29	28	29	28	30
-67	--	26	29	29	28	29	29	29	29	30
-66	--	26	29	29	29	29	29	29	29	30
-65	--	27	29	30	29	29	29	29	29	30
-64	--	27	29	30	29	30	29	29	29	31
-63	--	27	30	30	30	30	30	30	29	31
-62	--	27	30	30	30	30	30	30	30	31
-61	--	28	30	30	30	30	30	30	30	31

TABLE E-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION E - BRIGHT/INTELLIGENT.

TRANSFORMED RAW-SCORE	29-29	31-33	N-J-M-B-E-R 34-36	37-39	O-F 40-42	N-O-M-I-N-E-E-S 43-45	46-48	49-51	52-54	58-58
-60	--	28	30	31	31	31	30	30	31	31
-59	--	29	30	31	31	31	30	30	31	31
-58	29	29	31	31	31	31	31	31	31	31
-57	29	29	31	32	31	31	31	31	31	31
-56	30	30	31	32	31	32	31	31	31	32
-55	30	30	31	32	31	32	31	31	31	32
-54	31	31	31	32	32	32	32	32	32	32
-53	31	31	32	33	32	32	32	32	32	32
-52	32	32	32	33	32	32	32	32	32	32
-51	32	33	33	33	32	32	33	32	33	32
-50	32	34	33	33	33	33	33	33	33	32
-49	33	34	33	34	33	33	33	33	33	32
-48	33	34	34	34	33	33	33	33	34	32
-47	34	34	34	34	33	33	34	33	34	33
-46	34	34	34	34	34	34	34	34	34	33
-45	34	35	34	34	34	34	34	34	34	33
-44	35	35	34	35	34	34	34	34	35	33
-43	35	35	34	35	34	34	34	34	35	33
-42	35	36	35	35	35	34	35	35	35	33
-41	35	36	35	35	35	35	35	35	35	33
-40	36	37	35	35	35	35	35	35	35	33
-39	36	37	35	36	36	35	35	35	36	34
-38	36	37	35	36	36	35	36	35	36	34
-37	36	37	36	36	36	36	36	36	36	34
-36	36	37	36	36	36	36	36	36	36	34
-35	37	37	36	36	36	36	36	36	37	35
-34	37	37	37	36	37	36	36	36	37	36
-33	37	37	37	37	37	37	37	36	37	36
-32	37	37	37	37	37	37	37	37	37	36
-31	38	38	38	37	37	37	37	37	37	37
-30	38	38	38	38	37	38	37	37	37	37
-29	38	38	38	38	38	38	38	38	37	37
-28	38	38	38	38	38	38	38	38	38	37
-27	39	38	38	38	38	38	38	38	38	38
-26	39	38	38	39	38	39	38	38	38	38
-25	39	39	39	39	39	39	39	39	38	38
-24	40	39	39	39	39	39	39	39	39	38
-23	40	40	40	40	39	40	39	39	39	38
-22	40	40	40	40	40	40	40	40	39	38
-21	41	41	40	40	40	40	40	40	39	38

TABLE E-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION E - BRIGHT/INTELLIGENT.

TRANSFORMED RAW-SCORE	29-29	31-33	N-U-M-B-E-R 34-36	37-39	O-F 40-42	N-U-M-I-N-E-S 43-45	46-48	49-51	52-54	58-58
-20	41	41	40	41	40	40	40	40	40	40
-19	41	41	41	41	41	41	41	40	40	40
-18	42	42	41	41	41	41	41	41	40	40
-17	42	42	42	42	41	41	41	41	40	40
-16	43	43	42	42	42	41	41	41	41	41
-15	43	43	43	42	42	42	42	42	41	41
-14	44	44	43	43	43	42	42	42	41	42
-13	44	44	43	43	43	43	43	42	42	42
-12	45	44	44	43	43	43	43	43	42	43
-11	45	44	44	44	44	43	43	43	43	43
-10	46	45	45	44	44	44	44	44	43	43
-9	46	45	45	44	45	44	44	44	44	44
-8	47	46	45	45	45	45	45	44	44	44
-7	48	46	46	45	45	45	45	45	45	44
-6	48	46	46	46	46	45	45	45	45	44
-5	49	47	46	46	46	46	46	46	45	44
-4	49	47	47	47	47	46	46	46	46	45
-3	50	48	47	47	47	47	47	47	47	45
-2	50	48	48	48	48	48	48	47	47	46
-1	51	49	49	49	49	49	49	48	49	47
0	51	49	49	49	49	49	49	49	50	48
1	51	49	50	50	50	50	50	50	51	49
2	52	50	50	51	51	51	51	51	52	51
3	52	50	51	51	51	51	52	52	52	52
4	52	51	51	52	52	52	52	52	53	53
5	52	51	52	52	52	52	53	53	53	53
6	53	51	52	53	53	53	53	53	54	54
7	53	52	53	53	53	54	54	54	55	55
8	53	53	53	54	54	54	54	54	55	55
9	53	54	54	54	54	55	55	55	55	56
10	54	55	54	55	55	55	55	55	56	57
11	54	56	55	55	55	56	56	56	56	57
12	54	56	55	56	56	56	56	56	57	58
13	54	56	55	56	56	56	56	57	57	58
14	54	57	56	57	56	57	57	57	57	59
15	54	57	56	57	57	57	57	58	58	59
16	55	57	57	57	57	58	58	58	58	59
17	55	58	57	58	58	58	58	59	59	59
18	55	58	57	58	58	59	59	59	59	59
19	55	58	58	59	59	59	59	59	59	60
20	56	58	59	59	59	59	59	60	60	60

TABLE E-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION E - BRIGHT/INTELLIGENT.

TRANSFORMED RAW-SCORE	29-29	31-33	N-U-M-B-E-R 34-36	37-39	O-F 40-42	N-U-M-I-N-E-S 43-45	45-48	49-51	52-54	58-33
21	57	59	59	60	60	60	60	60	60	60
22	58	59	59	60	60	60	60	61	61	60
23	59	59	60	60	60	61	61	61	61	60
24	60	60	60	61	61	61	61	61	62	61
25	61	60	61	61	61	61	61	62	62	61
26	62	60	61	61	61	62	62	62	63	62
27	62	60	62	62	62	62	62	62	63	62
28	62	60	62	62	62	62	62	63	63	63
29	63	61	62	62	62	63	63	63	64	63
30	63	62	63	63	63	63	63	63	64	64
31	63	63	63	63	63	63	63	64	64	64
32	63	64	64	63	63	64	64	64	64	64
33	64	64	64	64	64	64	64	64	65	65
34	64	64	64	64	64	65	65	65	65	65
35	64	65	65	65	64	65	65	65	65	65
36	65	65	65	65	65	65	65	65	66	65
37	65	66	65	66	65	66	66	66	66	66
38	66	66	66	66	66	66	66	66	66	66
39	66	69	67	66	66	66	66	66	66	66
40	67	69	67	67	66	66	66	66	66	66
41	67	69	68	67	67	67	67	67	67	66
42	68	70	69	67	67	67	67	67	67	66
43	69	70	69	68	68	67	67	67	67	66
44	69	70	69	68	68	68	68	68	67	67
45	70	70	69	68	69	68	68	68	68	67
46	70	70	70	69	69	68	68	68	68	67
47	71	71	70	69	69	69	69	68	68	67
48	--	71	71	69	70	69	69	69	68	67
49	--	71	72	70	70	69	69	69	69	67
50	--	73	73	70	70	70	69	69	69	67
51	--	74	73	70	71	70	70	70	69	69
52	--	75	73	71	72	70	70	70	69	69
53	--	75	73	71	72	71	70	71	70	69
54	--	76	74	72	72	71	71	71	70	70
55	--	77	74	72	73	71	72	71	70	70
56	--	--	74	73	73	72	72	72	71	71
57	--	--	74	74	73	72	72	72	71	--
58	--	--	74	74	74	72	73	72	71	--
59	--	--	77	74	74	73	73	72	71	--
60	--	--	77	75	74	73	73	72	71	--

TABLE E-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION E - BRIGHT/INTELLIGENT.

TRANSFORMED RAW-SCORE	29-29	31-33	N-J-M-B-E-R 34-36	37-39	O-F 40-42	N-O-M-I-N-E-E-S 43-45	46-48	49-51	52-54	58-59
61	--	--	78	75	74	73	74	73	71	--
62	--	--	78	75	75	74	74	73	72	--
63	--	--	78	75	75	74	74	73	72	--
64	--	--	79	75	76	75	74	73	72	--
65	--	--	79	75	77	75	75	74	72	--
66	--	--	79	76	77	76	75	74	72	--
67	--	--	80	76	77	76	75	75	73	--
68	--	--	80	77	77	76	76	75	74	--
69	--	--	--	79	78	77	76	75	74	--
70	--	--	--	80	78	77	77	75	74	--
71	--	--	--	82	78	78	77	76	74	--
72	--	--	--	83	78	79	77	76	75	--
73	--	--	--	--	78	79	78	77	75	--
74	--	--	--	--	79	80	78	77	75	--
75	--	--	--	--	79	81	79	77	76	--
76	--	--	--	--	80	82	80	78	76	--
77	--	--	--	--	80	82	80	78	76	--
78	--	--	--	--	81	83	81	78	77	--
79	--	--	--	--	83	83	81	79	77	--
80	--	--	--	--	84	84	81	79	78	--
81	--	--	--	--	85	84	82	80	78	--
82	--	--	--	--	86	85	82	81	78	--
83	--	--	--	--	--	85	82	80	79	--
84	--	--	--	--	--	87	83	82	79	--
85	--	--	--	--	--	88	84	83	79	--
86	--	--	--	--	--	--	84	84	80	--
87	--	--	--	--	--	--	86	84	80	--
88	--	--	--	--	--	--	89	85	82	--
89	--	--	--	--	--	--	--	85	83	--
90	--	--	--	--	--	--	--	86	--	--
91	--	--	--	--	--	--	--	86	--	--
92	--	--	--	--	--	--	--	86	--	--
93	--	--	--	--	--	--	--	86	--	--
94	--	--	--	--	--	--	--	87	--	--
95	--	--	--	--	--	--	--	87	--	--
96	--	--	--	--	--	--	--	87	--	--
97	--	--	--	--	--	--	--	--	--	--
98	--	--	--	--	--	--	--	--	--	--
99	--	--	--	--	--	--	--	--	--	--
100	--	--	--	--	--	--	--	--	--	--

TABLE F-1. TABLE OF INITIAL, RAW-SCORE TRANSFORMATION COEFFICIENTS FOR DIMENSION F - NOT EXCITABLE.

NO. OF NOMINATORS	29-29	31-33	34-36	N-U-M-B-E-R 37-39	O-F 40-42	N-O-M-I-N-E-E-S 43-45	46-48	49-51	52-54	58-58
21	83.130	89.106	84.573	94.942	95.344	103.015	107.998	112.323	118.118	137.684
22	83.433	89.429	84.880	95.286	95.688	103.386	108.387	112.727	118.543	138.178
23	83.712	89.728	85.162	95.603	96.006	103.723	108.745	113.100	118.934	138.634
24	83.971	90.005	85.424	95.896	96.300	104.046	109.077	113.445	119.296	139.056
25	84.211	90.261	85.667	96.168	96.573	104.340	109.386	113.765	119.633	139.447
26	84.434	90.500	85.893	96.422	96.827	104.614	109.672	114.063	119.946	139.811
27	84.643	90.723	86.104	96.658	97.064	104.870	109.940	114.341	120.238	140.151
28	84.838	90.931	86.301	96.879	97.285	105.109	110.190	114.600	120.510	140.469
29	85.020	91.126	86.486	97.086	97.493	105.333	110.424	114.844	120.766	140.766
30	---	91.310	86.660	97.280	97.688	105.543	110.644	115.073	121.006	141.046
31	---	91.482	86.823	97.463	97.871	105.741	110.852	115.288	121.233	141.309
32	---	91.645	86.977	97.636	98.044	105.927	111.047	115.491	121.446	141.557
33	---	91.798	87.122	97.799	98.207	106.103	111.231	115.682	121.647	141.791
34	---	---	87.260	97.953	98.361	106.270	111.405	115.863	121.837	142.012
35	---	---	87.390	98.098	98.508	106.429	111.571	116.035	122.017	142.222
36	---	---	87.514	98.237	98.646	106.577	111.727	116.197	122.188	142.421
37	---	---	---	98.368	98.778	106.719	111.876	116.352	122.350	142.610
38	---	---	---	98.493	98.903	106.854	112.017	116.499	122.505	142.789
39	---	---	---	98.612	99.023	106.983	112.152	116.639	122.652	142.961
40	---	---	---	---	99.136	107.106	112.280	116.772	122.792	143.124
41	---	---	---	---	99.245	107.223	112.403	116.899	122.925	143.279
42	---	---	---	---	99.349	107.335	112.520	117.021	123.053	143.428
43	---	---	---	---	---	107.442	112.632	117.137	123.175	143.570
44	---	---	---	---	---	107.544	112.739	117.249	123.292	143.706
45	---	---	---	---	---	107.642	112.842	117.355	123.404	143.837
46	---	---	---	---	---	---	112.941	117.458	123.512	143.962
47	---	---	---	---	---	---	113.035	117.556	123.615	144.082
48	---	---	---	---	---	---	113.126	117.650	123.714	144.197
49	---	---	---	---	---	---	---	117.741	123.809	144.308
50	---	---	---	---	---	---	---	117.828	123.901	144.415
51	---	---	---	---	---	---	---	117.912	123.989	144.518
52	---	---	---	---	---	---	---	---	124.075	144.617
53	---	---	---	---	---	---	---	---	124.157	144.712
54	---	---	---	---	---	---	---	---	124.236	144.804
55	---	---	---	---	---	---	---	---	---	144.893
56	---	---	---	---	---	---	---	---	---	144.979
57	---	---	---	---	---	---	---	---	---	145.062
58	---	---	---	---	---	---	---	---	---	145.142
NORMATIVE SAMPLE N=	29	129	390	1107	2924	6807	8968	5525	1216	58

TABLE F-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION F - NOT EXCITABLE.

TRANSFORMED RAW-SCORE	29-29	31-33	N-U-M-B-E-R 34-36	37-39	O-F 40-42	N-O-M-I-N-E-E-S 43-45	46-48	49-51	52-54	58-58
-100	--	--	--	--	--	--	15	16	17	--
-99	--	--	--	--	--	14	17	19	20	--
-98	--	--	--	--	--	15	18	20	21	--
-97	--	--	--	--	--	17	18	21	21	--
-96	--	--	--	--	--	18	19	21	21	--
-95	--	--	--	--	--	19	20	22	22	--
-94	--	--	--	--	--	20	20	22	22	--
-93	--	--	--	--	16	20	21	23	22	--
-92	--	--	--	--	19	21	21	23	23	--
-91	--	--	--	--	20	22	22	24	23	--
-90	--	--	--	--	21	22	22	24	24	--
-89	--	--	--	--	21	23	23	24	25	--
-88	--	--	--	--	22	23	23	25	26	--
-87	--	--	--	--	22	23	23	25	26	--
-86	--	--	--	--	22	23	24	25	27	--
-85	--	--	--	--	23	24	24	25	27	--
-84	29	--	--	17	23	24	25	26	27	--
-83	29	--	--	18	24	25	25	26	27	--
-82	30	23	--	20	24	25	26	26	27	--
-81	30	23	--	21	25	26	26	26	28	--
-80	30	24	--	22	25	26	26	27	28	--
-79	30	24	--	23	26	26	27	27	28	--
-78	31	24	--	24	26	26	27	27	28	--
-77	31	25	--	24	26	27	27	27	28	--
-76	31	25	20	24	27	27	27	27	28	--
-75	31	25	24	24	27	27	28	28	29	--
-74	32	25	24	25	27	27	28	28	29	--
-73	32	26	25	25	27	28	28	28	29	--
-72	32	26	25	25	28	28	29	29	29	25
-71	32	26	25	26	28	28	29	29	29	26
-70	33	27	26	26	29	28	29	29	30	27
-69	33	27	26	27	29	29	29	29	30	27
-68	33	28	27	27	30	29	30	29	30	27
-67	33	28	28	27	30	29	30	30	30	28
-66	34	29	29	28	30	30	30	30	30	28
-65	34	31	29	28	30	30	30	30	31	29
-64	34	31	30	29	30	30	31	30	31	29
-63	34	31	30	29	31	30	31	31	31	29
-62	34	31	31	29	31	31	31	31	31	29
-61	34	31	31	30	31	31	31	31	32	29

TABLE F-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION F - NOT EXCITABLE.

TRANSFORMED RAW-SCORE	29-29	31-33	N-U-M-B-E-R 34-36	37-39	O-F 40-42	N-O-M-I-N-E-E-S 43-45	46-48	49-51	52-54	56-58
-60	34	32	31	30	31	31	31	31	32	30
-59	34	32	31	30	32	31	32	32	32	30
-58	35	32	31	31	32	32	32	32	32	30
-57	35	32	32	31	32	32	32	32	33	31
-56	35	32	32	31	32	32	32	32	33	31
-55	35	32	32	31	33	32	32	33	33	31
-54	35	33	32	32	33	33	33	33	33	32
-53	35	33	33	32	33	33	33	33	33	32
-52	35	34	33	32	33	33	33	33	34	32
-51	35	34	34	33	33	33	33	33	34	32
-50	35	34	35	33	34	33	33	33	34	33
-49	35	34	35	33	34	34	34	34	34	33
-48	35	34	35	34	34	34	34	34	34	34
-47	35	34	35	34	34	34	34	34	34	34
-46	36	34	35	34	34	34	34	34	35	34
-45	36	35	35	34	35	35	35	35	35	35
-44	36	35	35	35	35	35	35	35	35	35
-43	36	35	35	35	35	35	35	35	35	35
-42	36	35	35	35	35	35	35	35	35	35
-41	36	35	35	35	36	35	36	35	35	35
-40	36	36	35	35	36	35	36	36	36	35
-39	36	36	35	36	36	35	36	36	36	35
-38	36	36	35	36	36	35	36	36	36	36
-37	36	37	36	36	36	37	36	36	36	37
-36	36	37	37	37	37	37	37	37	36	37
-35	36	38	37	37	37	37	37	37	37	38
-34	36	39	37	37	37	37	37	37	37	39
-33	37	39	38	38	37	37	37	37	37	39
-32	37	39	38	38	38	38	38	37	37	39
-31	37	40	39	38	38	38	38	38	37	39
-30	37	40	39	39	38	38	38	38	38	40
-29	37	40	40	39	38	38	38	38	38	40
-28	37	40	40	39	39	39	39	38	38	41
-27	37	41	40	39	39	39	39	39	38	41
-26	37	41	40	39	39	39	39	39	38	41
-25	37	41	40	40	39	39	39	39	39	41
-24	37	41	41	40	40	40	40	39	39	41
-23	37	41	41	40	40	40	40	40	39	41
-22	37	41	41	41	40	40	40	40	39	42
-21	38	41	41	41	40	40	40	40	40	42

TABLE F-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION F - NOT EXCITABLE.

TRANSFORMED RAW-SCORE	29-29	31-33	N-U-M-B-E-R 34-36	37-39	O-F 40-42	N-O-M-I-N-E-E-S 43-45	46-48	49-51	52-54	56-56
-20	38	41	41	41	41	41	41	40	40	42
-19	38	41	42	41	41	41	41	41	40	42
-18	38	42	42	42	41	41	41	41	40	42
-17	38	42	42	42	42	41	41	41	41	42
-16	38	42	42	42	42	42	42	41	41	42
-15	38	43	42	43	42	42	42	42	41	43
-14	39	43	42	43	42	42	42	42	41	43
-13	40	43	43	43	43	43	43	42	42	43
-12	41	43	43	44	43	43	43	43	42	44
-11	42	43	43	44	43	43	43	43	42	44
-10	43	44	44	44	44	44	43	43	42	44
-9	43	44	44	45	44	44	44	43	43	44
-8	44	44	44	45	44	44	44	44	43	44
-7	46	45	45	45	45	45	44	44	44	44
-6	46	45	45	46	45	45	45	44	44	45
-5	47	45	45	46	46	45	45	45	45	45
-4	47	45	46	46	46	46	45	45	45	45
-3	48	46	47	47	46	46	46	46	45	45
-2	48	47	47	48	47	47	47	47	46	46
-1	49	47	48	48	48	47	48	47	47	47
0	49	48	48	49	48	48	48	48	48	48
1	49	48	49	49	49	49	49	49	49	49
2	50	49	49	50	49	49	49	50	50	49
3	50	49	50	50	50	50	50	50	51	50
4	50	50	51	51	50	51	51	51	52	50
5	51	51	51	51	51	51	51	51	53	51
6	52	51	51	52	51	52	52	52	53	51
7	52	51	52	52	52	52	52	52	53	52
8	53	52	52	53	52	53	53	53	54	53
9	53	52	53	53	53	53	53	54	54	53
10	54	53	53	54	54	54	54	54	55	54
11	54	53	54	54	54	54	54	55	55	54
12	55	54	54	55	55	55	55	55	55	54
13	55	54	55	55	55	55	55	56	56	55
14	56	55	55	56	56	56	56	56	56	55
15	56	55	56	56	56	56	56	57	57	55
16	57	55	56	56	57	57	57	57	57	55
17	58	56	56	57	57	57	58	58	58	55
18	58	56	57	58	58	58	58	58	58	56
19	59	57	57	58	58	58	59	59	59	57
20	59	58	58	58	59	59	59	59	59	58

TABLE F-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION F - NOT EXCITABLE.

TRANSFORMED RAW-SCORE	29-29	31-33	N-U-M-B-E-R 34-36	37-39	O-F 40-42	N-O-M-I-N-E-E-S 43-45	46-48	49-51	52-54	56-58
21	60	58	59	59	59	60	60	60	60	59
22	60	58	59	59	60	60	60	60	60	60
23	60	60	60	60	61	61	61	61	61	60
24	61	61	61	61	61	61	61	61	61	61
25	61	61	61	61	61	62	62	62	62	61
26	62	62	62	61	62	62	62	62	62	61
27	64	63	62	62	63	63	63	63	63	62
28	65	63	63	63	63	63	63	63	63	62
29	66	64	63	63	64	64	64	64	64	62
30	66	66	64	64	64	64	64	64	64	63
31	67	67	64	64	65	65	65	65	64	63
32	67	67	65	65	65	65	65	65	65	63
33	68	68	65	65	66	65	66	66	65	63
34	68	69	66	65	66	66	66	66	66	64
35	68	71	66	66	66	66	67	67	66	64
36	69	72	67	66	67	67	67	67	67	65
37	69	72	68	66	67	67	68	67	67	65
38	69	73	68	67	68	68	68	68	67	67
39	70	74	69	67	69	68	69	68	68	68
40	73	76	69	68	69	69	69	69	68	70
41	71	77	70	68	69	69	69	69	68	72
42	71	--	70	69	70	70	70	69	69	74
43	--	--	72	69	70	70	70	70	70	--
44	--	--	73	70	71	70	71	70	70	--
45	--	--	73	70	71	71	71	71	71	--
46	--	--	75	70	72	71	72	71	71	--
47	--	--	75	71	72	72	72	71	72	--
48	--	--	75	71	73	72	73	72	73	--
49	--	--	77	72	74	73	73	72	73	--
50	--	--	77	72	74	73	73	73	74	--
51	--	--	80	73	75	74	74	73	75	--
52	--	--	--	73	75	75	74	73	76	--
53	--	--	--	73	76	75	75	74	76	--
54	--	--	--	73	76	76	75	74	78	--
55	--	--	--	73	76	76	76	74	79	--
56	--	--	--	74	76	77	77	75	79	--
57	--	--	--	74	77	77	77	75	79	--
58	--	--	--	75	78	77	78	76	79	--
59	--	--	--	75	79	78	79	76	80	--
60	--	--	--	76	79	78	79	77	80	--

TABLE F-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION F - NOT EXCITABLE.

TRANSFORMED RAW-SCORE	29-29	31-33	N-J-M-B-E-R 34-36	37-39	O-F 40-42	N-O-M-I-N-E-E-S 43-45	46-48	49-51	52-54	56-58
61	--	--	--	76	80	79	80	77	80	--
62	--	--	--	77	81	79	80	78	81	--
63	--	--	--	77	81	79	80	78	81	--
64	--	--	--	77	82	79	81	78	82	--
65	--	--	--	78	84	80	81	79	82	--
66	--	--	--	78	86	81	82	79	83	--
67	--	--	--	79	--	81	82	80	83	--
68	--	--	--	80	--	82	83	80	--	--
69	--	--	--	81	--	82	83	81	--	--
70	--	--	--	81	--	84	83	81	--	--
71	--	--	--	82	--	84	84	82	--	--
72	--	--	--	82	--	85	84	82	--	--
73	--	--	--	83	--	85	85	83	--	--
74	--	--	--	--	--	85	85	85	--	--
75	--	--	--	--	--	85	86	85	--	--
76	--	--	--	--	--	86	86	85	--	--
77	--	--	--	--	--	86	89	86	--	--
78	--	--	--	--	--	86	--	86	--	--
79	--	--	--	--	--	86	--	86	--	--
80	--	--	--	--	--	87	--	86	--	--
81	--	--	--	--	--	87	--	86	--	--
82	--	--	--	--	--	87	--	86	--	--
83	--	--	--	--	--	87	--	87	--	--
84	--	--	--	--	--	88	--	87	--	--
85	--	--	--	--	--	88	--	87	--	--
86	--	--	--	--	--	--	--	87	--	--
87	--	--	--	--	--	--	--	--	--	--
88	--	--	--	--	--	--	--	--	--	--
89	--	--	--	--	--	--	--	--	--	--
90	--	--	--	--	--	--	--	--	--	--
91	--	--	--	--	--	--	--	--	--	--
92	--	--	--	--	--	--	--	--	--	--
93	--	--	--	--	--	--	--	--	--	--
94	--	--	--	--	--	--	--	--	--	--
95	--	--	--	--	--	--	--	--	--	--
96	--	--	--	--	--	--	--	--	--	--
97	--	--	--	--	--	--	--	--	--	--
98	--	--	--	--	--	--	--	--	--	--
99	--	--	--	--	--	--	--	--	--	--
100	--	--	--	--	--	--	--	--	--	--

TABLE G-1. TABLE OF INITIAL, RAW-SCORE TRANSFORMATION COEFFICIENTS FOR DIMENSION G - PHYSICAL STRENGTH/ENERGY.

NO. OF NOMINATORS	N-U-M-B-E-R O-F N-O-M-I-N-E-E-S 29-29	31-33	34-36	37-39	40-42	43-45	46-48	49-51	52-54	58-58
21	86.390	77.955	80.511	83.338	88.552	90.762	95.406	97.020	104.401	128.722
22	86.615	78.158	80.720	83.554	88.781	90.997	95.652	97.269	104.669	129.053
23	86.823	78.345	80.913	83.753	88.992	91.212	95.878	97.499	104.916	129.357
24	87.014	78.517	81.090	83.936	89.186	91.411	96.087	97.711	105.144	129.638
25	87.191	78.677	81.254	84.106	89.366	91.595	96.280	97.908	105.355	129.898
26	87.356	78.825	81.407	84.263	89.533	91.765	96.460	98.090	105.551	130.139
27	87.509	78.962	81.549	84.410	89.689	91.925	96.627	98.260	105.734	130.363
28	87.652	79.091	81.681	84.547	89.834	92.074	96.783	98.418	105.904	130.573
29	87.786	79.211	81.805	84.675	89.969	92.213	96.928	98.566	106.063	130.769
30	---	79.324	81.921	84.795	90.097	92.343	97.065	98.705	106.212	130.952
31	---	79.430	82.031	84.907	90.216	92.465	97.194	98.835	106.352	131.125
32	---	79.530	82.133	85.013	90.329	92.581	97.314	98.958	106.484	131.287
33	---	79.624	82.230	85.113	90.435	92.689	97.429	99.074	106.609	131.440
34	---	---	82.322	85.208	90.535	92.792	97.536	99.183	106.726	131.585
35	---	---	82.408	85.297	90.630	92.889	97.638	99.286	106.837	131.722
36	---	---	82.490	85.382	90.719	92.980	97.734	99.384	106.942	131.851
37	---	---	---	85.462	90.804	93.068	97.825	99.477	107.042	131.974
38	---	---	---	85.538	90.885	93.150	97.912	99.565	107.137	132.091
39	---	---	---	85.611	90.962	93.229	97.995	99.649	107.227	132.202
40	---	---	---	---	91.035	93.304	98.074	99.729	107.313	132.308
41	---	---	---	---	91.105	93.375	98.149	99.805	107.395	132.408
42	---	---	---	---	91.172	93.444	98.220	99.878	107.473	132.505
43	---	---	---	---	---	93.509	98.289	99.947	107.548	132.596
44	---	---	---	---	---	93.571	98.354	100.014	107.619	132.684
45	---	---	---	---	---	93.631	98.417	100.077	107.688	132.769
46	---	---	---	---	---	---	98.477	100.138	107.753	132.849
47	---	---	---	---	---	---	98.534	100.197	107.816	132.927
48	---	---	---	---	---	---	98.590	100.253	107.876	133.001
49	---	---	---	---	---	---	---	100.307	107.934	133.072
50	---	---	---	---	---	---	---	100.359	107.990	133.141
51	---	---	---	---	---	---	---	100.409	108.044	133.207
52	---	---	---	---	---	---	---	---	108.095	133.270
53	---	---	---	---	---	---	---	---	108.145	133.332
54	---	---	---	---	---	---	---	---	108.193	133.391
55	---	---	---	---	---	---	---	---	---	133.448
56	---	---	---	---	---	---	---	---	---	133.503
57	---	---	---	---	---	---	---	---	---	133.556
58	---	---	---	---	---	---	---	---	---	133.607
NORMATIVE SAMPLE N=	29	129	390	1107	2924	6807	8968	5525	1215	58

TABLE G-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION G - PHYSICAL STRENGTH/ENERGY.

TRANSFORMED RAW-SCORE	29-29	31-33	N-J-M-B-E-R 34-36	37-39	O-F 40-42	N-J-M-I-N-E-E-S 43-45	46-48	49-51	52-54	55-58
-100	--	--	--	--	--	--	--	--	--	--
-99	--	--	--	--	--	--	--	--	--	--
-98	--	--	--	--	--	--	--	--	--	--
-97	--	--	--	--	--	--	--	13	--	--
-96	--	--	--	--	--	--	11	14	--	--
-95	--	--	--	--	--	--	12	14	--	--
-94	--	--	--	--	--	--	14	15	--	--
-93	--	--	--	--	--	--	15	17	--	--
-92	--	--	--	--	--	--	16	18	--	--
-91	--	--	--	--	--	--	16	18	--	--
-90	--	--	--	--	--	12	18	18	--	--
-89	--	--	--	--	--	13	19	19	--	--
-88	--	--	--	--	--	14	19	19	--	--
-87	--	--	--	--	--	14	20	19	--	--
-86	--	--	--	--	--	15	20	20	--	--
-85	--	--	--	--	--	15	20	21	--	--
-84	--	--	--	--	14	17	20	21	--	--
-83	--	--	--	17	15	18	21	22	17	--
-82	--	--	--	18	16	18	21	22	18	--
-81	--	--	--	19	17	19	22	23	18	--
-80	--	--	--	20	19	20	22	23	19	--
-79	--	--	--	20	20	21	22	23	19	--
-78	--	--	--	21	20	21	23	23	20	--
-77	--	--	20	21	21	22	23	24	20	--
-76	--	--	20	21	22	23	23	24	21	--
-75	--	--	21	22	22	23	24	24	21	--
-74	--	--	21	22	23	24	24	24	21	--
-73	--	--	22	23	23	24	24	25	22	--
-72	--	--	22	24	23	24	24	25	22	--
-71	--	--	22	24	24	25	25	25	23	--
-70	--	--	23	24	24	25	25	26	23	--
-69	--	--	23	25	24	25	26	26	25	--
-68	--	--	24	25	24	25	26	26	26	--
-67	--	--	24	26	25	26	26	27	27	--
-66	--	--	25	26	25	26	27	27	27	--
-65	--	--	26	26	25	27	27	28	27	--
-64	--	--	26	27	26	27	27	28	27	--
-63	--	--	26	27	26	28	28	28	28	26
-62	--	--	26	28	26	28	28	29	28	29
-61	--	--	27	28	27	28	29	29	29	31

TABLE G-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION G - PHYSICAL STRENGTH/ENERGY.

TRANSFORMED RAW-SCORE	29-29	31-33	N-U-M-B-E-R 34-36	37-39	O-F 40-42	N-O-M-I-N-E-E-S 43-45	46-48	49-51	52-54	56-59
-60	--	26	27	29	27	29	29	29	29	31
-59	--	27	27	29	28	29	29	30	29	31
-58	--	28	27	30	28	29	29	30	30	31
-57	--	28	27	30	29	30	30	30	30	31
-56	--	29	28	30	29	30	30	30	30	32
-55	--	29	28	30	30	30	30	30	31	32
-54	--	30	28	31	30	30	30	31	32	32
-53	--	30	28	31	30	31	31	31	32	32
-52	--	30	29	31	31	31	31	31	32	32
-51	--	31	30	31	31	31	31	31	32	32
-50	--	31	31	31	31	31	31	32	32	32
-49	--	32	31	31	32	32	32	32	33	32
-48	--	33	31	31	32	32	32	32	33	32
-47	29	33	31	32	32	32	32	32	33	32
-46	30	33	32	32	33	32	33	33	33	33
-45	30	34	32	32	33	33	33	33	34	33
-44	31	34	32	33	33	33	33	33	34	33
-43	32	34	32	33	34	33	33	33	34	33
-42	32	35	32	33	34	34	34	34	34	33
-41	33	35	33	33	34	34	34	34	34	33
-40	33	35	33	34	35	34	34	34	35	34
-39	34	35	34	34	35	35	34	35	35	34
-38	34	36	34	34	35	35	35	35	35	35
-37	35	36	35	35	35	35	35	35	35	35
-36	35	36	35	35	36	35	35	35	36	36
-35	35	37	35	35	36	36	36	36	36	37
-34	35	37	35	35	36	36	36	36	36	37
-33	36	37	36	36	37	36	36	36	36	38
-32	36	37	36	36	37	36	37	36	37	38
-31	36	38	36	37	37	37	37	37	37	38
-30	37	38	37	37	37	37	37	37	37	38
-29	37	38	37	37	37	37	37	37	37	38
-28	38	39	38	38	38	38	38	38	38	39
-27	38	39	39	38	38	38	38	38	38	39
-26	38	39	39	38	38	38	38	38	38	39
-25	39	40	39	39	39	39	39	38	38	39
-24	39	41	39	39	39	39	39	39	39	40
-23	40	41	40	39	40	39	39	39	39	40
-22	40	41	40	40	40	40	40	39	39	40
-21	41	42	41	40	40	40	40	40	39	41

TABLE G-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION G - PHYSICAL STRENGTH/ENERGY.

TRANSFORMED RAW-SCORE	29-29	31-33	N-U-M-B-E-R 34-36	37-39	O-F 40-42	N-U-M-I-N-E-S 43-45	46-48	49-51	52-54	56-58
-20	41	43	41	41	41	40	40	40	40	41
-19	42	43	42	41	41	41	41	40	40	41
-18	43	43	42	42	41	41	41	40	40	41
-17	43	43	43	42	42	41	41	41	41	42
-16	44	43	43	42	42	42	42	41	41	42
-15	46	43	43	43	43	42	42	42	42	42
-14	46	43	44	43	43	43	42	42	42	43
-13	46	43	44	44	44	43	43	42	42	43
-12	46	44	45	44	44	43	43	43	43	43
-11	46	44	45	44	44	44	44	43	43	43
-10	47	45	46	45	45	44	44	44	43	44
-9	47	45	45	45	45	45	44	44	44	44
-8	47	45	46	46	45	45	45	44	44	44
-7	48	46	47	46	46	46	46	45	45	44
-6	48	46	47	47	46	46	46	45	45	45
-5	49	47	47	48	47	47	47	46	46	45
-4	49	47	48	49	47	47	47	47	47	46
-3	49	48	49	49	48	48	48	47	47	45
-2	50	48	49	49	49	49	48	48	48	47
-1	50	49	50	50	50	50	49	49	49	48
0	50	49	51	51	50	50	50	50	50	49
1	51	50	52	52	51	51	51	51	52	50
2	52	50	52	52	52	52	52	52	53	52
3	52	51	52	53	52	53	53	53	54	53
4	53	52	53	54	53	53	53	54	54	54
5	54	53	53	54	53	54	54	54	54	54
6	54	54	54	54	54	54	54	55	55	55
7	55	54	54	55	54	55	55	55	56	55
8	55	54	54	55	55	55	55	56	56	56
9	55	55	55	56	55	56	56	56	56	55
10	56	55	56	56	56	56	56	57	57	56
11	56	55	56	56	56	57	57	57	57	56
12	56	56	57	56	57	57	57	58	57	57
13	56	56	57	57	57	57	58	59	58	57
14	57	56	57	57	57	58	58	58	58	57
15	57	57	57	58	58	58	58	59	59	58
16	57	57	58	58	58	58	59	59	59	58
17	58	57	58	58	58	59	59	60	59	59
18	58	57	58	58	59	59	59	60	60	59
19	59	58	59	59	59	59	60	60	60	60
20	59	59	59	59	60	60	60	60	60	61

TABLE G-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION G - PHYSICAL STRENGTH/ENERGY.

TRANSFORMED RAW-SCORE	29-29	31-33	N-J-M-B-E-R 34-36	37-39	O-F 40-42	N-J-M-I-N-E-E-S 43-45	45-48	49-51	52-54	58-58
21	59	59	59	59	60	60	60	61	61	61
22	60	60	60	60	60	60	61	61	61	62
23	60	60	60	60	61	61	61	61	61	62
24	61	61	60	61	61	61	61	62	62	63
25	61	61	60	61	61	61	61	62	62	63
26	61	61	61	61	61	62	62	62	62	64
27	62	62	62	61	62	62	62	62	62	64
28	62	62	63	62	62	62	62	62	63	65
29	62	63	63	62	62	62	63	63	63	65
30	62	63	63	63	63	63	63	63	63	65
31	63	63	63	63	63	63	63	63	63	65
32	63	64	63	63	63	63	63	64	64	65
33	63	64	64	63	63	63	64	64	64	65
34	63	64	64	63	64	64	64	64	64	65
35	63	64	64	64	64	64	64	64	64	65
36	63	64	64	64	64	64	64	64	64	65
37	64	64	64	64	64	64	65	65	65	65
38	64	65	64	64	65	65	65	65	65	65
39	64	65	65	64	65	65	65	65	65	65
40	64	66	65	65	65	65	65	65	65	65
41	65	66	65	65	66	65	66	65	65	65
42	65	66	65	66	66	66	66	66	66	67
43	66	66	66	66	66	66	66	66	66	67
44	66	66	66	66	66	66	67	66	66	67
45	66	66	66	67	67	66	67	66	67	67
46	67	67	66	67	67	67	67	67	67	67
47	67	67	67	67	67	67	67	67	67	67
48	67	67	67	67	67	67	67	67	67	67
49	67	67	67	68	67	68	68	67	67	67
50	67	67	67	68	68	68	68	67	68	67
51	67	68	67	68	68	68	68	68	68	67
52	68	68	68	68	68	68	68	68	68	67
53	68	69	68	68	68	69	68	68	68	68
54	68	69	68	69	69	69	69	68	68	69
55	68	70	69	69	69	69	69	69	69	69
56	68	71	69	69	69	69	69	69	69	69
57	69	73	69	69	70	70	69	69	69	69
58	69	73	69	70	70	70	70	69	69	70
59	69	74	69	70	70	70	70	70	70	70
60	69	74	70	71	70	70	70	70	70	70

TABLE G-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION G - PHYSICAL STRENGTH/ENERGY.

TRANSFORMED RAW-SCORE	29-29	31-33	34-36	37-39	40-42	43-45	46-48	49-51	52-54	55-58
			N-U-M-B-E-R		O-F	N-O-M-I-N-E-E-S				
61	69	74	70	71	71	71	70	70	70	70
62	69	74	71	72	71	71	70	70	71	70
63	70	75	71	72	71	71	71	70	71	70
64	70	75	72	72	72	71	71	71	71	71
65	70	75	74	73	72	71	71	71	71	71
66	70	76	74	73	72	72	72	71	71	71
67	70	76	74	73	73	72	72	72	72	71
68	70	76	75	74	73	72	72	72	72	71
69	71	76	75	74	74	72	72	72	72	71
70	71	77	75	74	74	73	73	72	72	72
71	71	77	77	74	74	73	73	72	73	72
72	--	--	78	75	74	73	73	73	73	72
73	--	--	--	75	75	74	73	73	73	72
74	--	--	--	75	75	74	74	73	74	72
75	--	--	--	76	75	75	74	74	74	72
76	--	--	--	77	76	75	74	74	75	73
77	--	--	--	77	77	75	74	74	76	73
78	--	--	--	77	77	76	75	74	76	73
79	--	--	--	78	77	77	75	75	76	73
80	--	--	--	78	78	77	75	75	76	73
81	--	--	--	79	79	78	76	75	76	73
82	--	--	--	80	80	78	76	75	76	74
83	--	--	--	83	80	78	76	76	76	74
84	--	--	--	--	81	79	77	76	76	74
85	--	--	--	--	81	79	77	76	76	--
86	--	--	--	--	83	80	77	77	77	--
87	--	--	--	--	85	81	78	77	77	--
88	--	--	--	--	86	81	79	78	77	--
89	--	--	--	--	--	81	80	78	77	--
90	--	--	--	--	--	82	81	79	78	--
91	--	--	--	--	--	82	82	79	78	--
92	--	--	--	--	--	83	85	79	78	--
93	--	--	--	--	--	84	85	80	78	--
94	--	--	--	--	--	--	86	81	78	--
95	--	--	--	--	--	--	86	82	79	--
96	--	--	--	--	--	--	86	84	79	--
97	--	--	--	--	--	--	88	85	79	--
98	--	--	--	--	--	--	89	86	80	--
99	--	--	--	--	--	--	--	86	80	--
100	--	--	--	--	--	--	--	87	83	--

TABLE H-1. TABLE OF INITIAL, RAW-SCORE TRANSFORMATION COEFFICIENTS FOR DIMENSION H - LIKELY TO SUCCEED IN A.F.

NO. OF NOMINATORS	29-29	31-33	34-36	N-U-M-B-E-R 37-39	O-F 40-42	N-O-M-I-N-E-E-S 43-45	46-48	49-51	52-54	58-58
21	68.911	76.376	77.402	81.543	86.278	89.887	93.845	96.997	99.988	107.460
22	69.080	76.564	77.591	81.742	86.488	90.105	94.073	97.232	100.231	107.720
23	69.236	76.736	77.765	81.925	86.682	90.307	94.283	97.449	100.453	107.959
24	69.380	76.895	77.926	82.094	86.860	90.492	94.476	97.648	100.659	108.180
25	69.513	77.042	78.074	82.250	87.025	90.664	94.655	97.833	100.849	108.384
26	69.637	77.178	78.212	82.395	87.178	90.823	94.821	98.004	101.026	108.573
27	69.752	77.305	78.341	82.530	87.321	90.971	94.975	98.164	101.190	108.749
28	69.859	77.424	78.460	82.656	87.454	91.109	95.120	98.313	101.343	108.914
29	69.959	77.535	78.572	82.773	87.578	91.239	95.254	98.452	101.486	109.067
30	---	77.638	78.677	82.884	87.694	91.360	95.381	98.582	101.621	109.212
31	---	77.736	78.776	82.987	87.804	91.474	95.499	98.705	101.747	109.347
32	---	77.828	78.869	83.085	87.907	91.581	95.611	98.820	101.865	109.474
33	---	77.914	78.956	83.176	88.004	91.682	95.716	98.928	101.977	109.594
34	---	---	79.039	83.263	88.095	91.777	95.815	99.031	102.083	109.707
35	---	---	79.117	83.345	88.182	91.867	95.909	99.128	102.183	109.814
36	---	---	79.190	83.423	88.264	91.952	95.998	99.220	102.277	109.916
37	---	---	---	83.497	88.342	92.033	96.083	99.307	102.367	110.012
38	---	---	---	83.567	88.416	92.110	96.163	99.390	102.452	110.104
39	---	---	---	83.633	88.486	92.183	96.239	99.468	102.533	110.190
40	---	---	---	---	88.553	92.253	96.312	99.543	102.610	110.273
41	---	---	---	---	88.617	92.319	96.381	99.615	102.684	110.352
42	---	---	---	---	88.678	92.382	96.447	99.683	102.754	110.427
43	---	---	---	---	---	92.443	96.510	99.748	102.821	110.499
44	---	---	---	---	---	92.501	96.570	99.810	102.885	110.568
45	---	---	---	---	---	92.556	96.628	99.870	102.946	110.634
46	---	---	---	---	---	---	96.683	99.927	103.005	110.697
47	---	---	---	---	---	---	96.736	99.982	103.061	110.758
48	---	---	---	---	---	---	96.787	100.034	103.116	110.816
49	---	---	---	---	---	---	---	100.085	103.168	110.871
50	---	---	---	---	---	---	---	100.133	103.218	110.925
51	---	---	---	---	---	---	---	100.180	103.266	110.977
52	---	---	---	---	---	---	---	---	103.312	111.026
53	---	---	---	---	---	---	---	---	103.357	111.074
54	---	---	---	---	---	---	---	---	103.400	111.121
55	---	---	---	---	---	---	---	---	---	111.165
56	---	---	---	---	---	---	---	---	---	111.208
57	---	---	---	---	---	---	---	---	---	111.250
58	---	---	---	---	---	---	---	---	---	111.290
NORMATIVE SAMPLE N=	29	129	390	1107	2924	6807	8968	5525	1215	58

TABLE H-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES
FOR DIMENSION H - LIKELY TO SUCCEED IN A.F.

TRANSFORMED RAW-SCORE	29-29	31-33	N-U-M-B-E-R 34-36	37-39	O-F 40-42	N-U-M-I-N-E-S 43-45	46-48	49-51	52-54	56-58
-100	--	--	--	--	--	--	--	--	--	--
-99	--	--	--	--	--	--	--	--	--	--
-98	--	--	--	--	--	--	--	--	--	--
-97	--	--	--	--	--	--	--	--	--	--
-96	--	--	--	--	--	--	--	--	--	--
-95	--	--	--	--	--	--	--	13	--	--
-94	--	--	--	--	--	--	13	15	--	--
-93	--	--	--	--	--	--	14	17	--	--
-92	--	--	--	--	--	12	14	18	--	--
-91	--	--	--	--	--	13	15	18	--	--
-90	--	--	--	--	--	14	16	19	--	--
-89	--	--	--	--	--	14	17	20	--	--
-88	--	--	--	--	--	15	18	20	--	--
-87	--	--	--	--	--	16	19	21	--	--
-86	--	--	--	--	16	18	19	21	19	--
-85	--	--	--	--	17	19	20	21	20	--
-84	--	--	--	--	18	20	20	22	21	--
-83	--	--	--	--	19	21	21	23	22	--
-82	--	--	--	--	20	22	21	23	22	--
-81	--	--	--	17	22	22	22	24	22	--
-80	--	--	--	18	23	23	22	24	23	--
-79	--	--	20	19	23	23	23	25	23	--
-78	--	--	20	20	24	24	24	25	24	25
-77	--	--	21	21	24	24	24	25	24	25
-76	--	--	21	22	25	24	25	26	26	25
-75	--	--	21	22	25	24	25	26	27	27
-74	--	--	22	23	26	25	26	26	27	27
-73	--	--	22	23	26	25	26	27	27	27
-72	--	--	22	24	26	26	27	27	27	27
-71	--	--	23	24	26	26	27	28	28	27
-70	--	--	23	24	26	27	27	28	28	28
-69	29	--	25	25	26	27	28	28	29	28
-68	29	23	27	25	27	27	28	28	29	28
-67	29	24	27	25	27	28	28	29	29	28
-66	29	24	28	25	27	28	29	29	29	29
-65	30	25	28	26	28	28	29	29	29	29
-64	30	26	28	26	28	29	29	30	30	29
-63	30	26	29	27	28	29	30	30	30	29
-62	30	27	30	27	29	29	30	30	30	29
-61	30	28	31	28	29	30	30	30	30	30

TABLE H-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION H - LIKELY TO SUCCEED IN A.F.

TRANSFORMED RAW-SCORE	29-29	31-33	N-U-M-B-E-R 34-36	37-39	O-F 40-42	N-O-M-I-N-E-E-S 43-45	46-48	49-51	52-54	58-58
-60	30	28	31	29	29	30	30	31	31	30
-59	30	29	32	29	30	30	30	31	31	30
-58	31	30	32	30	30	31	31	31	31	30
-57	31	30	32	31	30	31	31	31	32	30
-56	31	31	32	31	31	31	31	31	32	31
-55	31	32	32	31	31	32	31	32	32	31
-54	31	32	32	32	31	32	32	32	32	31
-53	31	32	33	32	32	32	32	32	32	31
-52	31	32	33	32	32	33	32	32	32	32
-51	32	33	33	32	32	33	32	33	32	32
-50	32	33	33	32	33	33	33	33	33	33
-49	32	33	33	32	33	33	33	33	33	33
-48	32	33	34	32	33	33	33	33	33	33
-47	32	34	34	33	34	34	33	34	33	34
-46	32	34	34	33	34	34	34	34	34	34
-45	32	35	35	33	34	34	34	34	34	34
-44	33	35	35	34	35	34	34	34	34	35
-43	33	35	35	34	35	35	34	35	34	35
-42	33	36	35	34	35	35	35	35	35	35
-41	33	36	36	35	35	35	35	35	35	36
-40	33	36	35	35	35	35	35	35	35	36
-39	33	36	36	35	36	36	35	35	35	36
-38	33	36	36	35	36	36	36	36	36	37
-37	34	36	37	36	36	36	36	36	36	37
-36	34	37	37	36	36	36	36	36	36	38
-35	34	37	37	36	36	36	36	36	36	38
-34	34	37	37	37	37	37	37	36	37	38
-33	35	37	37	37	37	37	37	37	37	38
-32	35	37	38	37	37	37	37	37	37	38
-31	36	37	38	37	37	37	37	37	37	38
-30	37	37	38	37	38	38	38	37	37	38
-29	37	38	39	38	38	38	38	38	37	39
-28	38	38	39	38	38	38	38	38	38	39
-27	39	38	39	39	39	38	38	38	38	39
-26	39	39	39	39	39	39	39	38	38	39
-25	40	39	39	39	39	39	39	38	38	39
-24	40	40	40	40	39	39	39	39	39	39
-23	41	41	40	40	40	39	39	39	39	39
-22	41	41	40	40	40	40	40	39	39	39
-21	41	41	40	40	40	40	40	39	39	39

TABLE H-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION H - LIKELY TO SUCCEED IN A.F.

TRANSFORMED RAW-SCORE	29-29	31-33	N-J-M-B-E-R 34-36	37-39	C-F 40-42	N-O-M-I-N-E-E-S 43-45	46-48	49-51	52-54	56-59
-20	42	42	40	41	41	40	40	40	40	39
-19	42	42	41	41	41	40	40	40	40	40
-18	42	42	41	41	41	41	41	40	40	40
-17	43	42	41	42	41	41	41	41	41	41
-16	43	43	41	42	42	41	41	41	41	41
-15	43	43	41	43	42	42	41	41	41	41
-14	43	43	42	43	42	42	42	42	42	41
-13	44	43	42	43	43	42	42	42	42	42
-12	44	44	43	44	43	43	43	42	42	42
-11	44	44	43	44	43	43	43	43	42	42
-10	45	45	44	44	44	43	43	43	43	42
-9	45	45	44	45	44	44	44	43	43	43
-8	46	46	45	45	45	44	44	44	43	43
-7	46	46	45	46	45	45	44	44	44	43
-6	47	46	46	46	45	45	45	45	44	44
-5	47	47	46	47	46	46	45	45	45	44
-4	48	47	47	48	46	46	46	46	46	45
-3	48	48	47	48	47	47	46	46	46	46
-2	49	48	48	48	48	48	47	47	47	46
-1	49	49	49	49	49	49	48	48	48	47
0	50	49	49	50	49	49	49	49	49	49
1	51	50	50	51	50	50	50	50	51	49
2	51	50	50	51	51	51	51	51	52	51
3	52	51	51	52	52	52	52	52	53	52
4	53	52	52	52	52	52	52	52	54	53
5	53	52	52	53	53	53	53	53	54	54
6	54	53	53	53	53	53	54	54	54	55
7	54	53	53	54	54	54	54	54	55	55
8	54	54	54	54	55	55	55	55	55	55
9	54	54	55	55	55	55	55	56	56	57
10	55	54	55	55	55	55	56	56	56	57
11	55	55	55	56	56	56	57	57	57	58
12	55	55	56	56	56	57	57	57	57	59
13	56	56	56	57	57	57	57	58	58	59
14	56	56	57	57	57	58	58	58	58	59
15	57	57	57	57	58	58	58	58	59	60
16	57	58	57	58	58	58	59	59	59	60
17	57	58	57	58	59	59	59	59	59	60
18	58	58	58	59	59	59	59	60	60	60
19	58	59	58	59	59	59	60	60	60	61
20	58	60	59	59	59	60	60	60	61	61

TABLE H-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES FOR DIMENSION H - LIKELY TO SUCCEED IN A.F.

TRANSFORMED RAW-SCORE	29-29	31-33	N-U-M-B-E-R 34-36	37-39	O-F 40-42	N-U-M-I-N-E-S 43-45	45-48	49-51	52-54	56-38
21	58	60	59	60	60	60	60	61	61	61
22	59	60	59	60	60	61	61	61	61	61
23	59	60	60	60	61	61	61	61	62	62
24	59	60	60	60	61	61	62	62	62	62
25	59	61	61	61	61	62	62	62	62	62
26	61	61	62	61	62	62	62	62	63	62
27	62	62	62	61	62	62	63	63	63	62
28	62	62	63	62	62	63	63	63	63	63
29	62	63	63	62	62	63	63	63	64	63
30	63	63	63	63	63	63	63	64	64	63
31	63	63	64	63	63	63	64	64	64	63
32	63	63	64	63	63	64	64	64	64	63
33	63	63	64	64	64	64	64	64	65	64
34	63	63	65	64	64	65	64	65	65	64
35	63	64	65	64	65	65	65	65	55	64
36	64	64	66	65	65	65	65	65	66	65
37	64	64	66	65	65	65	65	66	66	65
38	64	65	66	65	66	65	65	66	66	65
39	64	65	65	65	66	66	66	66	66	65
40	65	66	67	66	66	66	66	66	66	65
41	65	66	67	66	67	66	66	67	67	65
42	65	66	67	66	67	65	66	67	67	65
43	65	67	68	67	67	67	67	67	67	66
44	66	67	68	67	67	67	67	67	67	67
45	66	68	69	67	68	67	67	67	67	67
46	69	68	69	68	68	68	67	68	68	67
47	71	68	69	68	68	68	68	68	68	67
48	--	68	70	68	69	68	68	68	68	67
49	--	69	71	69	69	68	68	68	68	67
50	--	69	71	69	69	69	68	68	68	67
51	--	69	71	69	69	69	69	69	69	68
52	--	70	71	69	70	69	69	69	69	69
53	--	70	71	70	70	70	69	69	69	58
54	--	71	72	70	70	70	69	70	69	69
55	--	71	72	70	71	70	70	70	70	68
56	--	73	72	70	71	71	70	70	70	68
57	--	75	73	70	71	71	70	71	70	69
58	--	77	74	71	72	71	70	71	70	69
59	--	--	74	71	72	72	71	71	70	69
60	--	--	75	71	72	72	71	71	70	70

TABLE M-2. TABLE OF STANDARD SCORES FOR TRANSFORMED RAW-SCORES
FOR DIMENSION M - LIKELY TO SUCCEED IN A.F.

TRANSFORMED RAW-SCORE	29-29	31-33	N-U-M-B-E-R 34-36	37-39	O-F 40-42	N-O-M-I-N-E-E-S 43-45	46-48	49-51	52-54	56-58
61	--	--	75	72	73	72	71	71	71	70
62	--	--	75	72	73	72	72	72	71	71
63	--	--	75	73	73	73	72	72	71	72
64	--	--	77	73	74	73	72	72	71	72
65	--	--	77	73	74	73	72	72	71	73
66	--	--	78	74	74	74	73	72	72	73
67	--	--	78	74	75	74	73	73	72	74
68	--	--	79	75	75	74	73	73	72	--
69	--	--	79	75	75	75	74	73	72	--
70	--	--	80	76	77	75	74	74	73	--
71	--	--	80	76	77	76	75	74	73	--
72	--	--	--	77	77	75	75	74	73	--
73	--	--	--	78	78	76	76	75	74	--
74	--	--	--	78	78	77	76	75	74	--
75	--	--	--	79	79	77	77	75	74	--
76	--	--	--	80	80	78	77	76	75	--
77	--	--	--	80	81	79	78	76	75	--
78	--	--	--	81	81	79	78	76	75	--
79	--	--	--	--	83	79	78	76	76	--
80	--	--	--	--	84	80	79	76	76	--
81	--	--	--	--	85	80	79	77	76	--
82	--	--	--	--	85	81	79	77	77	--
83	--	--	--	--	86	81	81	78	78	--
84	--	--	--	--	--	82	81	79	79	--
85	--	--	--	--	--	82	81	79	79	--
86	--	--	--	--	--	82	82	79	80	--
87	--	--	--	--	--	84	82	80	80	--
88	--	--	--	--	--	85	83	80	80	--
89	--	--	--	--	--	87	83	81	80	--
90	--	--	--	--	--	88	85	82	81	--
91	--	--	--	--	--	--	86	82	81	--
92	--	--	--	--	--	--	86	83	81	--
93	--	--	--	--	--	--	88	84	81	--
94	--	--	--	--	--	--	89	84	82	--
95	--	--	--	--	--	--	--	85	82	--
96	--	--	--	--	--	--	--	86	82	--
97	--	--	--	--	--	--	--	86	82	--
98	--	--	--	--	--	--	--	87	83	--
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